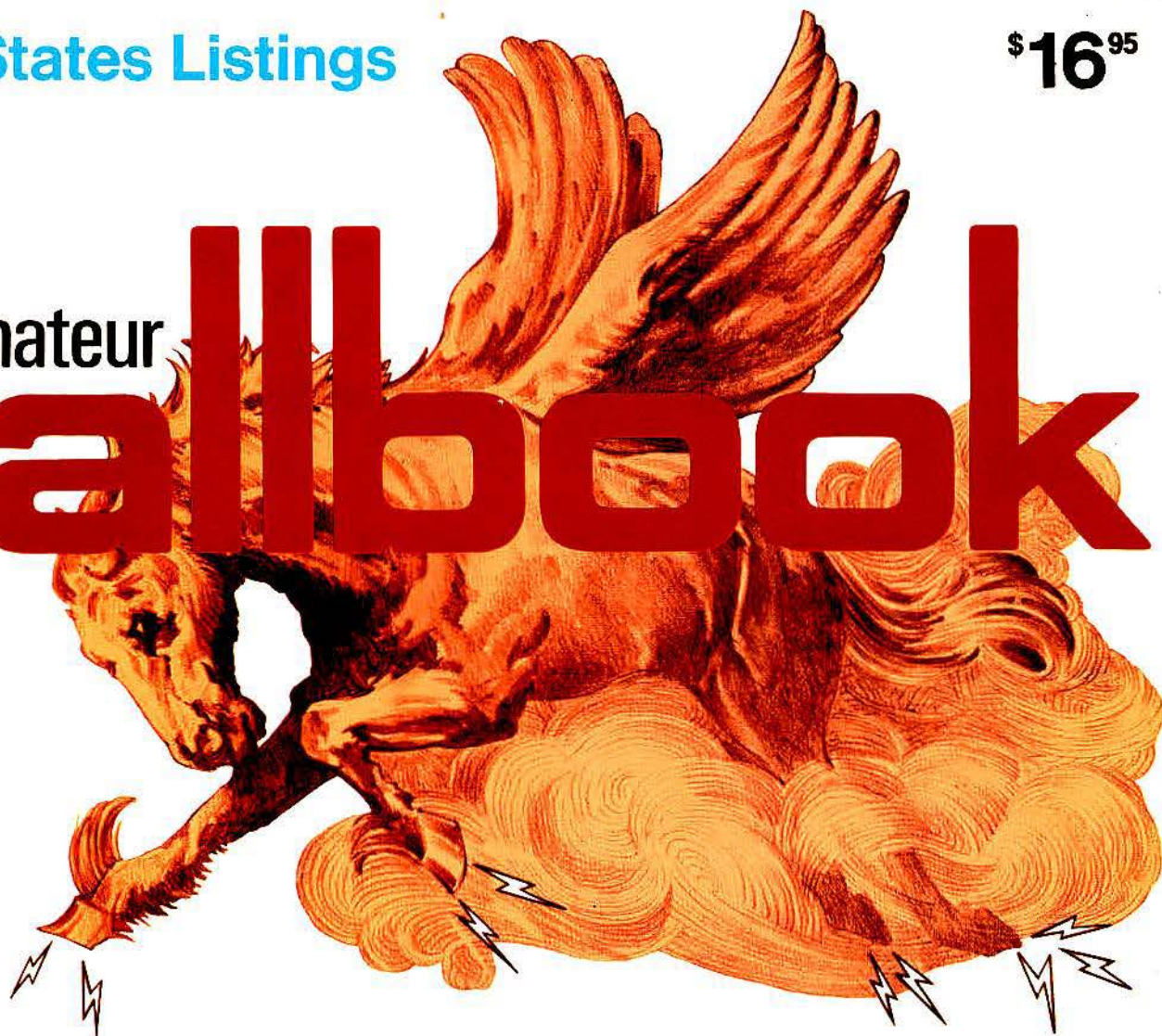


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1980

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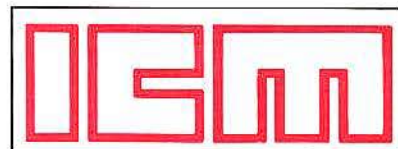
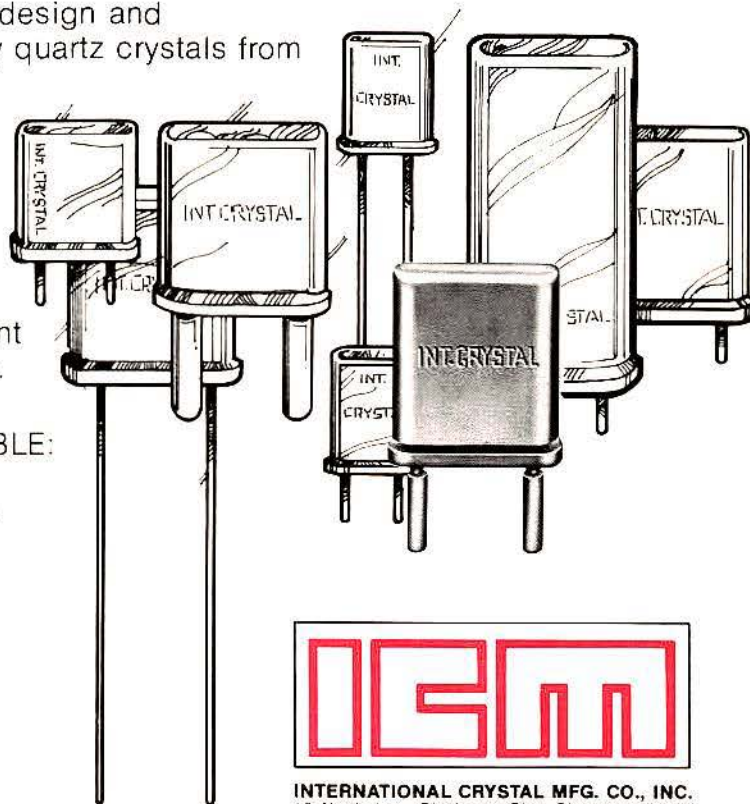
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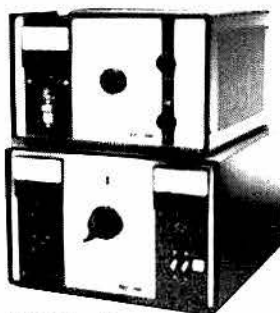
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VOLUME 58
NUMBER 1

A, K, N, & W CALLS

WINTER 1979-80

CONTENTS

Allocation of International Call Sign Series	25
AMSAT - OSCAR Users Directory	1077
ARRL Countries List (DXCC)	8
ARRL Safety Code	14
Census of Amateur Radio Licenses in the USA by Classes	10
Census of Amateur Radio Licenses throughout the World	15
DX Operating Code	9
FCC Examination Points	24
Great Circle Bearings in the U.S.A.	28
Great Circle Bearings From the U.S.A. to Various World Wide Metropolitan Areas	21
International Postal Rates	12
Phonetic Alphabet	24
"Q.N." Signals	24
"Q." Signals	22
QSL Bureaus	26
Radio Amateur Prefixes arranged alphabetically by Country	6
Radio Amateur Prefixes arranged alphabetically by Prefix	4
Standard Time throughout the World	23
Telegraph Codes	17
Telegraphers Abbreviations in Current Use	16
Where to Buy	1086

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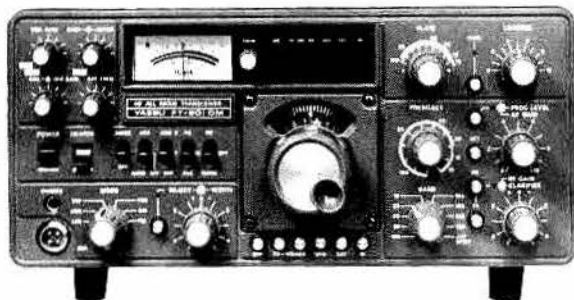
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A3	Tonga	KP6, KH5	Kingman Reef	VR6	Line Is.	Line Is.
A4	China	K54, KP5, KH9	Palmyra, Jarvis Is.	VR7 (See VR3)	Pitcairn Is.	Pitcairn Is.
A5	Shri Lanka	K56, KH8	Serrano Bank & Roca del Rey	VR8 (See T2)		
ABX	United Arab Emirates	KV, KP2	American Samoa	V56		
AFX	Qatar	KV, KH9	Virgin Is.	V58		
AD	Bahrain	KX	Wake Is.	V59 (See B1)		
BV	Taiwan	KZ	Marshall Is.	V59K		
BY	China	LA (L, F, LQ, LJ)	Canal Zone	VU		
CE	Chile	LA (See CE9AA AM)	Norway	VU7		
CE9AA AM FBV, KC1, LA, LU, DR4, UA1		LI (See CE9AA AM, VR8)	Argentina	W (See K)		
UK1 VKBVP, ZLS, ZS1, ZY, ZK, ZJ	Antarctica	LX	Luxembourg	XE		
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CE9A	Eastern Is.	*M1 (See SA)		XP (See OX)		
CE9K	San Felix Is.	N (See K)		*XT		
CE9L	Juan Fernandez Is.	OA	Peru	XU		
CM CO	Cuba	OD	Lebanon	XV		
CN	Morocco	OE	Austria	XW		
CP	Bolivia	OF	Finland	XZ		
CR1	Guinea-Bissau	OH	Aland Is.	YA		
CR9	Macao	OHQ	Market Reef	*YB, YC		
CT	Portugal	OJQ	Czechoslovakia	Y1		
CT2	Azores Is.	OK	Belgium	YJ		
CT3	Madeira Is.	OR	Greenland	YK		
CA	Uruguay	OH4 (See U9AA AM)	Faroe Is.	YN		
C2	Nauru	OXAP	Denmark	YO		
C3	Andorra	OY	Netherlands	YU		
C5	The Gambia	OZ	Netherlands Antilles	YV		
C8	Barbados	PA P1	Sint Maarten, Saba & St. Eustatius Is.	YVQ		
C9	Mozambique	PJ	Brazil	ZA		
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D2, D3	Angola	PZ	Suriname	Z08		
DM	Cape Verde	*PZ	Papua New Guinea	Z09		
*D6	Comoros	SK, SL, SM	Sweden	ZE		
EA6	Spain	SP	Poland	ZF		
EA8	Baltic Is.	S1	Sri Lanka	ZK1		
EA9	Canary Is.	SIQ	Sudan	ZK2		
E1	Crete and Melos	SU	Southern Sudan	ZL		
E2	Republic of Ireland	SV	Egypt	ZL		
EP	Iran	SV	Greece	ZL		
F	Ethiopia	SV	Grenada	ZL		
FBW	France	SV	Dodecanese Is.	ZL		
FBX	Crozier Is.	S2	Mount Athos	ZL		
FBY (See CE9AA AM)	Kerguelen Is.	S7	Bangladesh	ZL5 (See CE9AA AM)		
FBZ	Amsterdam & St. Paul Is.	S9, CA5	Seychelles	ZM7		
FG	Guadeloupe Is.	TA	St. Thomas & Principe	Z1, Z2, Z4, Z5, Z6		
*FH	Mayotte Is.	TF	Iceland	Z51 (See CE9AA AM)		
FK	New Caledonia	TG	Guatemala	Z52		
FM	Martinique	TI	Costa Rica	Z53		
FO	Chaparral Is.	T19	Cocos Is.	Z54		
F0	French Polynesia	*T1	Cameroon	Z55		
*FP	St. Pierre & Miquelon Is.	*T1N	Central African Rep.	3B6, 3B7		
*FR	Glorioso Is.	*T1R	Congo	3B8		
FR	Juan de Nova, Europa Is.	*T1T	Gabon	3B9		
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*FS	Saint Martin Is.	*T2	Mali	3D6		
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FY	French Guiana	UA, UK, L, A, B, UV, UW1-6, UN1	France, Josef Land	3X		
G	England	UALUK1		3Y (See CE9AA AM)		
GO	Isle of Man	UA1, UK1 (See CE9AA AM)		4K (See CE9AA AM)		
G1	Northern Ireland	UA2, UK2, F		4L		
G1, GC	Jersey	UA, UK, UV, UW9, G		4S		
GM	Scotland	UB, UK, UT, UY5		4U		
GU, GC	Guernsey & Dependencies	UC2, UK2A, C, L, J, Q, S, W		4U, UT, UY		
GN	Wales	UD6, UK6, C, D, K		4W		
HA	Hungary	UF6, UK6F, Q, R, V		4X, 4Z		
HBB	Switzerland	UG6, UK6G		5A		
HCB	Liechtenstein	UI6, UK6H		5B, 2C		
HC	Ecuador	UI6, UK6I		5H		
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HR	Dominican Republic	UM6, UK6M, N		*5T		
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DX OPERATING CODE

(For W/VE Amateurs)

Some amateur DXers have caused considerable confusion and QRM in their efforts to work DX stations. The points below, if observed by all W/VE amateurs, will help make DX more enjoyable for all.

1. Call DX only after he calls CQ, QRZ? or signs SK, or 'phone equivalents thereof. Make your calls short.
2. Do not call a DX station:
 - a. On the frequency of the station he is calling until you are sure the QSO is over (SK).
 - b. Because you hear someone else calling him.
 - c. When he signs KN, AR or CL.
 - d. Exactly on his frequency.
 - e. After he calls a directional CQ, unless of course you are in the right direction or area.
3. Keep within frequency band limits. Some DX stations can get away with working outside, but you cannot.
4. Observe calling instructions given by DX stations.
Example: "15U" means "call 15 kc. up from my frequency".
"15D" means down, etc.
5. Give honest reports. Many DX stations depend on W/VE reports for adjustment of station and equipment.
6. Keep your signal clean. Key clicks, rattle, feedback or splatter give you a bad reputation and may get you a citation from FCC.
7. Listen and call the station you want. Calling CQ DX is not the best assurance that the rare DX will reply.
8. When there are several W or VE stations waiting, avoid asking DX to "listen for a friend". Also avoid engaging him in a rag chew against his wishes.

(For Overseas Amateurs)

To all overseas amateur stations:

In their eagerness to work you, many W and VE amateurs resort to practices which cause confusion and QRM. Most of this is good-intentioned but ill-advised; some of it is intentional and selfish. The key to the cessation of unethical DX operating practices is in your hands. We believe that your adoption of certain operating habits will increase your enjoyment of amateur radio and that of amateurs on this side who are eager to work you. We recommend your adoption of the following principles:

1. Do not answer calls on your own frequency.
2. Answer calls from W/VE stations only when their signals are of good quality.
3. Refuse to answer calls from other stations when you are already in contact with someone, and do not acknowledge calls from amateurs who indicate they wish to be "next".
4. Give everybody a break. When many W/VE amateurs are patiently and quietly waiting to work you, avoid complying with requests to "listen for a friend".
5. Tell listeners where to call you by indicating how many kilocycles up (U) or down (D) from your frequency you are listening.
Examples: c.w. - "CQ DX CQ DX CQ DX 15U DE AC4YN AC4YN AC4YN 15U K"; 'phone - "Answer 15 kilocycles up from my frequency".
6. Use the ARRL-recommended ending signals, especially KN, to indicate to impatient listeners the status of the QSO.
(KN means "Go ahead (specific station), all others keep out".)
7. Let it be known that you avoid working amateurs who are constant violators of the above principles.

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CENSUS OF AMATEUR RADIO LICENSES* in the U.S.A.

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Call Area	State	Novice	Technician	General	Advanced	Extra	Club	Military	Repeaters	State totals
#1	Conn.	1,398	882	2,194	1,347	515	100	5	72	6,513
	Maine	506	223	860	419	158	13	3	26	2,208
	Mass.	2,079	2,557	3,817	2,439	851	142	12	107	12,004
	N.H.	476	445	785	511	178	18	2	24	2,439
	R.I.	300	474	551	294	107	22	4	17	1,769
	Vermont	138	116	365	199	69	14		6	907
		4,897	4,697	8,572	5,209	1,878	309	26	252	25,840
#2	New Jersey	2,187	3,117	4,147	3,276	1,139	268	6	114	14,254
	New York	5,430	5,307	7,900	5,863	1,829	321	17	238	26,905
		7,617	8,424	12,047	9,139	2,968	589	23	352	41,159
#3	Delaware	188	168	284	194	92	6	1	10	943
	D.C.	64	32	138	121	54	10	4	2	425
	Maryland	1,280	1,074	2,060	1,920	665	84	15	57	7,155
	Penn.	3,400	3,405	5,577	3,763	1,243	191	25	179	17,783
		4,932	4,679	8,059	5,998	2,054	291	45	248	26,306
#4	Alabama	1,063	1,081	1,774	1,104	315	31	6	81	5,455
	Florida	3,655	3,827	6,534	4,721	1,196	109	12	168	20,222
	Georgia	1,323	1,165	2,233	1,431	434	57	8	63	6,714
	Kentucky	1,045	834	1,378	755	223	32	4	57	4,328
	N. C.	1,483	1,259	2,535	1,641	467	58	7	93	7,543
	S. C.	528	447	1,282	692	217	60	7	33	3,266
	Tenn.	1,596	1,591	2,110	1,584	420	54	4	98	7,457
	Virginia	1,451	1,204	2,786	2,073	761	55	18	66	8,414
		12,144	11,408	20,632	14,001	4,033	456	66	659	63,399
#5	Arkansas	520	491	934	619	178	29	2	37	2,810
	Louisiana	886	724	1,610	1,082	308	49	7	43	4,709
	Mississippi	502	422	842	530	144	10	3	42	2,495
	New Mexico	362	347	832	561	208	12	2	27	2,351
	Oklahoma	876	911	1,439	1,129	290	40	3	52	4,740
	Texas	3,866	4,045	7,547	5,231	1,439	144	14	277	22,563
		7,012	6,940	13,204	9,152	2,567	284	31	478	39,668
#6	California	7,933	10,451	15,626	13,037	3,473	546	55	637	51,758
		7,933	10,451	15,626	13,037	3,473	546	55	637	51,758
#7	Arizona	979	1,277	1,951	1,562	414	41	5	58	6,287
	Idaho	426	247	662	374	103	17		19	1,848
	Montana	292	93	629	326	80	20		15	1,455
	Nevada	287	255	579	323	112	20	2	30	1,608
	Oregon	1,427	850	2,299	1,460	378	54	4	46	6,518
	Utah	389	429	612	506	139	21	5	32	2,133
	Washington	1,883	1,567	3,704	2,528	752	75	17	113	10,639
	Wyoming	176	84	323	150	45	7	1	15	801
		5,859	4,802	10,759	7,229	2,023	255	34	328	31,289
#8	Michigan	3,334	2,692	4,788	2,964	810	108	9	114	14,819
	Ohio	4,492	5,055	6,133	3,895	1,048	186	10	223	21,042
	W. V.	882	446	904	481	163	20	3	32	2,931
		8,708	8,193	11,825	7,340	2,021	314	22	369	38,792
#9	Illinois	3,426	3,533	5,802	3,597	1,004	222	7	137	17,728
	Indiana	2,210	2,055	2,817	1,735	473	106	2	71	9,469
	Wisconsin	1,423	978	2,336	1,414	384	73	4	78	6,690
		7,059	6,566	10,955	6,746	1,861	401	13	286	33,887
#10	Colorado	1,219	823	1,929	1,364	426	38	6	88	5,893
	Iowa	1,159	673	1,753	1,254	261	66	6	52	5,224
	Kansas	1,019	559	1,701	979	291	33	6	56	4,644
	Minnesota	1,303	901	2,412	1,572	468	84	2	61	6,803
	Missouri	1,589	1,207	2,625	1,701	519	89	5	79	7,814
	Nebraska	593	402	1,059	669	129	36	2	32	2,922
	N. Dakota	210	60	443	183	37	10	1	8	952
	S. Dakota	264	112	431	254	61	9		17	1,148
		7,356	4,737	12,353	7,976	2,192	365	28	393	35,400
	Alaska	329	188	490	378	149	12	18	13	1,577
	Hawaii	302	224	558	513	167	19	8	15	1,806
		631	412	1,048	891	316	31	26	28	3,383
	Puerto Rico	753	481	277	282	76	12	4	18	1,903
	Guam	62	20	42	43	18	2	3	2	192
	Virgin Is.	19	7	31	41	13			1	112
	A. Samoa	7		16	5	3				31
	Canal Zone	47	16	113	38	10		10		234
		888	524	479	409	120	14	17	21	2,472
Grand Total 50 States, D.C., Puerto Rico & U. S. Possessions		75,036	71,833	125,559	87,127	25,506	3,855	386	4,051	393,353

* From the 1980 Radio Amateur Callbook.

ALL-MODE VHF amplifiers

FOR BASE STATION & REPEATER USE

MODEL: V350



- Built-in 115-230 VAC Supply
- AM FM CW SSB RTTY
- 60dB Harmonics
- 60dB Spurious
- Heavy Duty Design

MODEL: V180



- Illuminated Panel Meter
- Automatic T/R Switching
- VSWR Protected
- + 13V/3A Accessory Socket
- U.S. Manufactured

All Solid-State!

MODEL	FREQUENCY	INPUT	OUTPUT	SIZE WxDxH	WEIGHT	FAN KIT REQUIRED	PRICE
**V76	50-54MHz	8 15W	100 120W	216x330x178mm	11.7 kg (26 lbs)	No	\$339.00
**V360	50-54MHz	5 10W	400 450W	432x330x203mm	23.4 kg (52 lbs)	Yes	\$895.00
V70	144-148MHz	10 15W	75 90W	216x330x178mm	11.7 kg (26 lbs)	No	\$315.00
V71	144-148MHz	1 1W	75 90W	216x330x178mm	11.7 kg (26 lbs)	No	\$349.00
V180	144-148MHz	5 15W	170 200W	216x330x178mm	13.5 kg (30 lbs)	CW & FM	\$539.00
V350	144-148MHz	10 20W	350 400W	432x330x203mm	23.4 kg (52 lbs)	Yes	\$895.00
V130B	220-225MHz	10 15W	70 85W	216x330x178mm	11.7 kg (26 lbs)	No	\$329.00
V135B	220-225MHz	25 35W	140 160W	216x330x178mm	11.7 kg (26 lbs)	CW & FM	\$469.00
F110		Fan Kit, 115VAC		135x135x50mm	1 kg (2.2 lbs)		\$ 33.00
F220		Fan Kit, 230VAC		135x135x50mm	1 kg (2.2 lbs)		\$ 33.00
*F135		Fan Kit, 115VAC		381x140x89mm	3.2 kg (7 lbs)		\$ 59.00
*F235		Fan Kit, 230VAC		381x140x89mm	3.2 kg (7 lbs)		\$ 59.00
RM 1		19 inch Rack Adaptor		483x3x178mm	1 kg (2.2 lbs)		\$ 25.00
*RM 2		19 inch Rack Adaptor		197x32x28mm	5 kg (11 lbs)		\$ 12.00

* Used with the V360 & V350 Amplifiers

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CB3

INTERNATIONAL POSTAL RATES

THESE ARE THE POSTAL RATES IN EFFECT AT PRESS TIME OF THIS ISSUE.

	U.S. and Possessions Canada, Mexico	Central America, Columbia, Venezuela, Caribbean Is.	South America, Europe, Africa, Asia, Oceania
Surface Postcard (QSL)	\$0.10	\$0.14	\$0.14
Surface Letter (1 ounce)	\$0.15	\$0.20*	\$0.20*
Additional ounces up to 13 ozs.	\$0.13		
Air postcard (QSL)		\$0.21	\$0.21
Air letter (each ½ ounce)		\$0.25**	\$0.31***
Aerogramme		\$0.22	\$0.22

* Over 1 up to 2 oz., \$0.36; over 2 up to 4 oz., \$0.48

** Over 2 oz., \$0.21 each additional half ounce

*** Over 2 oz., \$0.26 each additional half ounce.

INTERNATIONAL REPLY COUPONS (IRC's) of United States issue may be purchased at U. S. Post Offices for \$0.42 each. Each coupon is exchangeable at a Post Office in any country for a stamp or stamps representing the international postage on a single rate surface letter. Below are listed the number of IRC's required to prepay an AIR MAIL letter of the first weight unit FROM the countries indicated TO the United States.

Afghanistan	5	Ecuador	3	Lebanon	3	Romania	3
Aland Is. (Finnish)	2	Egypt	2	Leeward Is.	3	Rwanda	2
Albania	4	El Salvador	2	Lesotho	5	St. Helena Is. (Br.)	3
Algeria	2	Ethiopia	3	Liberia	5	St. Pierre & Miquelon (Fr.)	2
Andorra	2	Faeroe Is. (Denmark)	2	Libya	2	Samoa, Western	4
Angola	3	Falkland Is. (Br.)	3	Liechtenstein	2	Saudi Arabia	3
Argentina	3	Fiji Is.	4	Luxembourg	2	Senegal	2
Ascension Is. (Br.)	3	Finland	2	Macao (Port.)	3	Seychelles Is.	3
Australia	4	France	2	Madeira Is. (Port.)	2	Sierra Leone	3
Austria	2	French Polynesia	2	Malagasy Rep.	3	Solomon Is.	5
Azores (Port.)	2	Gabon	2	Malawi	6	South Africa	5
Bahamas	2	Gambia, The	4	Malaysia	5	South Yemen	5
Bahrain	5	Germany, West	2	Maldives Is.	5	Spain	2
Balearic Is. (Spain)	2	Germany, East	2	Mali	2	Sri Lanka	5
Bangladesh	2	Ghana	3	Malta	2	Sudan	3
Barbados	3	Gibraltar (Br.)	2	Martinique Is. (Fr.)	2	Surinam	1
Belgium	2	Gilbert Is.	5	Mauritania	2	Swaziland	5
Belize	2	Great Britain	2	Mauritius	3	Sweden	2
Benin	2	Greece (incl. Crete)	2	Mexico	2	Switzerland	2
Bermuda	2	Greenland (Denmark)	2	Morocco	2	Syria	3
Bolivia	2	Grenada	4	Mozambique	3	Taiwan	3
Botswana	5	Guadeloupe Is.	2	Namibia	5	Tanzania	4
Brazil	2	Guatemala	2	Nauru	4	Tasmania (Australia)	4
Brunei	8	Guiana, French	2	Nepal	5	Thailand	3
Bulgaria	3	Guinea, Equatorial	2	Netherlands	2	Togo	2
Burma	4	Guinea	2	Netherlands Antilles	2	Tonga	3
Burundi	3	Guyana	4	New Caledonia	2	Trinidad & Tobago	2
Cambodia	3	Haiti	5	New Hebrides	2	Tristan da Cunha & Gough Is.	3
Cameroon	2	Honduras	3	New Zealand	3	Tunisia	2
Canada	2	Hong Kong	5	Nicaragua	4	Turkey	3
Canary Is. (Spain)	2	Hungary	2	Niger	2	Turks & Caicos Is.	2
Cape Verde	3	Iceland	2	Nigeria	3	Tuvalu	5
Cayman Is.	3	India	3	Northern Ireland	2	Uganda	4
Central African Republic	2	Indonesia	3	Norway	2	United Arab Emirates	4
Chad	2	Iran	4	Oman	4	Uruguay	2
China	3	Iraq	3	Pakistan	2	Vatican City	2
Colombia	3	Ireland (Eire)	3	Panama	2	Venezuela	2
Comoro	3	Israel	3	Papua New Guinea	3	Vietnam	2
Congo	2	Italy	2	Paraguay	3	Virgin Is. (Br.)	2
Cook Is. (N.Z.)	3	Ivory Coast	2	Peru	3	Voltaic Republic	2
Corsica	2	Japan	2	Philippines	3	West Irian (Indonesia)	3
Costa Rica	2	Jordan	3	Poland	2	Windward Is.	2
Cuba	4	Kenya	4	Portugal	2	Yugoslavia	3
Cyprus	4	Korea	3	Qatar	4	Zaire	2
Czechoslovakia	2	Kuwait	4	Reunion Is. (Fr.)	2	Zambia	2
Denmark	2			Rhodesia	5	Zanzibar (Tanzania)	4
Djibouti	2						
Dominican Republic	2						



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Available at selected dealers or send \$39.95 (\$49.95 for chrome model) plus \$2.00 shipping and handling. Overseas amateurs invited to request quotation for air parcel post shipment.

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Any large piece of gear we sell you (average \$300 or up) we will **double** your warranty period!

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Simply send your rig in a good shipping carton, postage prepaid, with a copy of your receipt showing date of purchase. We will repair promptly and return by best way.

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Call **Don - K5AAD** or **Mike - W5VVM** for specific warranty claim questions.

POLICY SUBJECT TO CHANGE WITHOUT NOTICE

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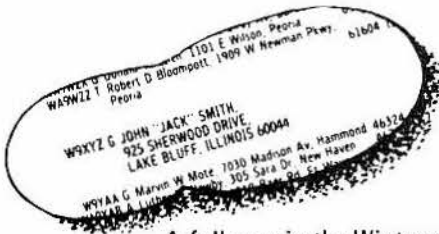


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RADIO AMATEUR CALLBOOK, Inc.

925 SHERWOOD DRIVE LAKE BLUFF, ILLINOIS 60044

ARRL SAFETY CODE

1. KILL ALL POWER CIRCUITS COMPLETELY BEFORE TOUCHING ANYTHING BEHIND THE PANEL OR INSIDE THE CHASSIS OR THE ENCLOSURE.

2. Never allow anyone else to switch the power on and off for you while you're working on equipment.

3. Don't shoot trouble in a transmitter when you're tired or sleepy.

4. Never adjust variable links by hand. Use special care when checking energized tank circuits with absorption-type wavemeters.

5. Avoid bodily contact with grounded metal (racks, radiators) or damp floors when working on the transmitter.

6. Never wear phones while working on gear.

7. Follow the rule of keeping one hand in your pocket.

8. Instruct members of your household HOW to turn the power off, and HOW to apply artificial respiration. Instruction sheets on the latest approved method of resuscitation can be obtained from your local Red Cross office.

9. Develop your own safety technique. TAKE TIME TO BE CAREFUL. DEATH IS PERMANENT.

RULES FOR EQUIPMENT DESIGN AND CONSTRUCTION

ONE DISCONNECT SWITCH

A single plainly-labeled main switch should be provided to cut off all power from the equipment.

POWER SUPPLIES

All power supplies should be so enclosed or constructed that accidental bodily contact with power circuits is impossible.

All negative plate-supply and positive bias-supply terminals should be connected to the chassis and the chassis connected to a water pipe or other good ground connection.

Every power supply should use a conservatively-rated bleeder resistor. If it is placed on top of the chassis for ventilation, cover it with screening or perforated metal. When using shield wire for external power cabling, make sure the shielding is grounded to protect you in case of insulation breakdown.

PANEL CONTROLS AND METERING

Every control shaft extending through the front of the panel should be at ground potential. The frames of key or metering jacks should be fastened to the grounded panel. Meters, unless connected in the cathode or centertap, should be recessed to avoid danger of contact with the adjusting screw.

AUDIO EQUIPMENT

In addition to the construction rules set forth for power supplies, the following rule should be followed for speech equipment. The microphone stand and the enclosure should always be connected to the microphone-cable shield which, in turn, should be grounded to the chassis.

LIGHTNING PROTECTION

Merely "grounding everything" is not adequate protection from direct lightning strikes or static build-up. Lightning has devious methods of going where it isn't supposed to. There is only one way to protect your radio from lightning, and that is to disconnect everything completely and then ground all the disconnected lines. This applies to incoming power circuits, also; "pulling the big switch" is an old adage which makes sense. Finally, pay special attention to rotor control boxes; a lightning strike can come into the box via the control cable, go through the control box, out the power cord, and through your "cube-tap" (or whatever) and thence up the power cord of your radio, even though all power cords have been disconnected from the wall socket! Please, HANDLE EVERY CIRCUIT WITH CARE. The lowly 110-115 volts has caused more electrocutions than any other.

SWITCH
TO SAFETY!



CENSUS OF AMATEUR RADIO LICENSES OF THE WORLD*

15

PREFIX COUNTRY NUMBER OF
RADIO AMATEUR
LICENSES LISTED

A	U.S.A. (SEE KXAN/KM)	
AP	PAKISTAN	56
A2	BAHAMA IS.	66
A3	TURKEY	16
A4	OMAN	54
A5	UNITED ARAB EMIRATES	2
A6	QATAR	11
A7	BAHAMA IS.	26
AV	TAIWAN	2
CE	CHILE	1,063
CM	CUBA	301
CO	COLOMBIA	111
CP	COSTA RICA	1,349
CR	COSTA RICA	2
CT	PORTUGAL	1,713
CT2	AZORES IS.	40
CT3	MADEIRA IS.	47
LX	URUGUAY	2,700
S2	AUGUST	13
E3	ANDORRA	134
CS	THE CAYMAN IS.	39
CG	BAHAMA IS.	30
JA-DE	WEST GERMANY	3,429
DM	EAST GERMANY	3,393
PH	PHILIPPINE IS.	541
Q2	ARGENTINA	13
24	CAP. VERDE	3
FA	SPAIN	5,463
CA2	BALEARS IS.	157
CA3	CANARY IS.	405
CA4	CANARY IS.	73
CA5	CANARY IS.	167
CA6	CANARY IS.	99
CA7	CANARY IS.	115
FR	FRANCE	19,710
FR-1	FRANCE	19,710
FR-2	FRANCE	19,710
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FR-103	FRANCE	19,710
FR-104	FRANCE	19,710
FR-105	FRANCE	19,710
FR-106	FRANCE	19,710
FR-107	FRANCE	19,710
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FR-111	FRANCE	19,710
FR-112	FRANCE	19,710
FR-113	FRANCE	19,710
FR-114	FRANCE	19,710
FR-115	FRANCE	19,710
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FR-338	FRANCE	19,710
FR-339	FRANCE	19,710
FR-340	FRANCE	19,710
FR-341	FRANCE	19,710
FR-342	FRANCE	19,710
FR-343	FRANCE	19,710
FR-344	FRANCE	19,710

^ denotes short space, as in American Morse o, \overline{e} ; c, \overline{t} ; &, \overline{e} .
 — denotes letters sent together, as in \overline{ar} , sent \overline{a} \overline{r} .

- A -	
aa	all after
ab	all before
abl	able
abt	about
ads, adr	address
adv	advise
af	Africa
afm	afternoon
agn	again
ahd	ahead
alnq	along
am	amplitude modulation
ani	any
anr	another
ant	antenna
app	appreciate
ar	end of message
ar, ar m	wait, wait a minute
au	fractions follow
aw	aufl wiedersehn (Ger), see you later
- B -	
b	be
b4	before
balun	balanced-to-unbalanced
bc, brl	broadcast, broadcast listener
bcrn	be seeing you
bd	buenos dias (Sp), bad
bda	birthday
bde, bo, bli	both, as in "u5 bde", up both (Morse)
bfo	beat frequency oscillator
bje	bon jour (Fr)
bk, bkg	back, break, black, book, breaking
bkr	breaker, circuit-breaker
bn	been, brown, between, buenas noches (Sp)
bq	answer to rq (request)
brq, brmq	bearing, heading
bse	bon soir (Fr)
btr	better
buk	book

- C -	
c	yes
cd	card, could
cd, cud, cndt	could, couldn't
cflm, cfmq	confirm, confirming
ck	check
ckt, cct	circuit
cl, cly	call, calling, closed
clbk	callback
clix	clicks
cle	clear
condx, condx, cde	conditions
cnt, cntl, cnty	count, county
cnvn	convention
coz, cos, cuz, becuz	because
cpi	copy
co	general call to all stations
cs	call sign, call letters
cua, cuagn	see you again
cul	see you later
cum, cm, cmq	come, coming
cupla	a couple of
cw	continuous wave, manual keying

- D -	
da	day
dbl	double
dcn	direction
dct	direct
de	from
df	direction finder
dif, diff	difference
dle, did	dealer, deliver, delivered
dn, d	down (in frequency)
dnt, dnt	do not, don't mention it
dpe	dope, information
dr	dear
ds	thanks, danke schon (Ger)
dsnt	does not
dsw	goodbye, do svidaniya (Russian)
dunno	don't know
dx	distance, or rare station
dxpdu	dx expedition

- E -	
em	old man
eh	?
el, els	antenna element(s)
em	then
em, enibdi, enihw	any, anybody, anyhow
ere	here
es, es	and (from Morse "E")
eta	estimated time of arrival
etd	estimated time of departure
eu	Europe

- F -	
fb, vfb	fine business, good (enthusiastic approval)
fd	field day, feed, food
fer	for
five	QSA-5
fld	field, filed
flr	floor
fm, fms	from, frequency modulation
fnd	friend, find, found
fnx	funny
foxes	teleprinter test tapes
freq, fq	frequency
fwd	forward
fyi	for your information

- G -	
ga	good afternoon, go ahead
gb	good bye
gd	good day, good
ges, gess	guess
gq	going
gl	good luck

- G - (Cont.)	
gld	glad
gm, gmq	gone, green, going
gnd	ground
gotta	got to, have to, must
gp	ground plane, group (word)
grs	groups (as in msg code groups)
god	good
qtgs	greetings
gv, gvq	give, giving
- H -	
hd, hrd	had, hard, heard
hdg	heading, antenna azimuth
hed	he would
h	high, laughter, (sometimes) 1)
hlo	hello
hfv	hasta la vista (Sp), see you later
hpe, hps	hope, hoping
hpl	happy
hpn, wa hpn	happen, what happened
hq, hqtrs	headquarters
hr, hrg, hrs	here, hear, hour, hearing, here is, hours
hv, hvml, hvq	have, haven't, having
hvi	heavy
hw, hws	how? how is?
- I -	
i	ready? here goes the tape
id	I would
ie	clear? (response: i-go, i-wait)
im	I'm, him, intermodulation
im	?
info	information
irpt	I repeat
- K -	
k	go ahead, end of transmission
ka	beginning of transmission (formal)
klix	clicks
klvb	que (ke) le vaya bien (Sp)
	"That it goes well with you"
kn	go ahead, but only the station(s) called, I will answer no other calls, known
knw	know
- L -	
lkg	looking
ll	landline, telephone or telegraph
lng	long
lotsa	lots of
lp	long path (long way around earth)
ltn	listen
ltr	letter, later
lv, lvq	leave, leaving
lw	long wave, "lone wolf" (independent DXer)
- M -	
mag, rap	magazine
mci, mci bcp	merci, merci beaucoup (Fr), thanks
mgr	manager
my	my
mil, mil, ma	milliamper, typewriter
min	minute, minimum
mk	mark (opposite of space)
ml, mlq	mail, mailing
mq	morning, meaning
mn	many
ml	manual
mo	moment
msg	message

- N -	
n	no
nd	nothing doing
ng	no good
nil	nothing
naz	lazy "ni"
nm	nothing more, no more
nn	noon
no	know
nr	near, number
nvr	never
nw	now
- O -	
ob, obb	old boy
oc	old chap
ok, okk	all correct
ol	old lady
om, oem	old man
op, opr	operator
opn, ops	operation, operating
ot	old timer
- P -	
pa	power amplification
pbl, pbls	probab (i), preamble, probably
pctcs	practices
pd	period, paid
pd	pure dc, clean note
pkq	backlog, parking
plsr	please
prgn	propagation
ppl	people
prtbl	portable
pse, pls, psd	please, pleased
psbl, psb	possible, possibly
psn, posn	position
pt, ptd, ptg	point, part, pointed, pointing
pw	power

- Q -	
qhm	tuning from high frequency to middle of band
qlf	try sending with left foot awhile
qlr	tuning from low frequency to middle of band
qlz	operator too lazy
qth	tuning from middle frequency to high frequency
qtl	tuning from middle frequency to low frequency
qmc	try mailing your tlc
qnu	man-made electrical noise
qst	mail card confirming qso
qstl	send card after receiving mine
qst	of interest to all amateurs

- R -	
r	received
rac	rectified ac
rc	rag chew
rcd, recd	received
rcr, rcr, rcvr, r	receiver
rd	read (copy), red
rdi, rdy	ready
rdo	radio, radio station
re	concerning
reg, regs	regular, regulations
rilo	righto
rm	room
rmg	running
rockbnd, rockbnd	crystal controlled, no vfo
rpt	report, repeat
rq	request
rsl	readability 1-5, strength 1-9, tone 1-9
- S -	
sa, set, sed, sa	say, says, said, South America
sae	self-addressed envelope
sase	self-addressed stamped envelope
sb, sbb	single sideband
sad	signed
shd, shud, shudn't	should, shouldn't
sig, sigs	signal(s), signature
smo	simultaneously
sked	schedule
sl	see you later
sn	soon, seen, signal/noise
sp	short path (the closer great-circle path)
sri	sorry
ss	sweepstakes
ssn	season, as in "ssns qgts"
str	station
su	I'll see you
sum	some
sumbd	somebody
svc	service
svl	several
sw	switch, short wave
sv	dollar sign "\$"
- T -	
tbl, trbl	trouble
tlc	traffic, messages
thr	there, then
tmw	tomorrow
tnq	tuning, thing
tnk	think
tnsmn	transmission
tr	transit, position, there, transmit/receive
T/R	transmit/receive
trix	tricks
tl, lts	that, that is
tu, tuu, tux, tks	thank you, thanks
tv, tvl	television, television interference
tw	telegram
tx, trans	transmitter

- U -	
u, up	you, upward in frequency
ufb	ufb, very fine business (Rus)
uk	United Kingdom
ul, ud	you will, you would
undld	undelivered
unhd	unheard
ur, urf	your, yours
ut	universal time, GMT, "Zebra" time
- V -	
va	signing off (same as sk)
vert	vertical
vfb	very fine business
vfo	variable-frequency oscillator
vjo	viejo (Sp), old man
vox	voice-operated switch
vy, vrl	very
vvo	variable crystal oscillator
- W -	
w, wt	wall
wa	word alter
wat, watsa	what, what do you say?
wb	word before
wd	word, would
wdr	who?
wed	we would
wh	while
wid	with
wlco	will comply, will do
wk, wkq	week, weak, work, working, QSOing
wri	worry
wx, wda	weather

- X -	
xll	crystal
xtr, xtrr	transmitter
xq	fill, or repeat of unreceived copy
- Y -	
yda	yesterday
yl, xyl	young lady, married young lady
yr	your, yours
- Z -	
z	Greenwich Mean Time, UT, "zebra"
zedder	New Zealand
zi	zone of the interior (continental USA)
ztlch	nothing

NUMBER CODE	
1 - a	6 - b
2 - a	7 - b
3 - a	8 - c
4 - a	9 - c
5 - a	0 - c
73	
BB	
99 (rare)	
best wishes	
love and kisses	
keep out	

TELEGRAPH CODES

CONTINENTAL CODE	MORSE CODE
Used in ham radio	Used on land lines in United States and Canada
<p>A .-</p> <p>B -...-</p> <p>C -.-.-</p> <p>D -..-</p> <p>E .</p> <p>F ..-</p> <p>G -.</p> <p>H</p> <p>I ..</p> <p>J .-</p> <p>K -.-</p> <p>L .-..</p> <p>M --</p> <p>N -.-</p> <p>O ---</p> <p>P .--.</p> <p>Q --.-</p> <p>R .-.</p> <p>S ...</p> <p>T -</p> <p>U ..-</p> <p>V ...-</p> <p>W -.-</p> <p>X -..-</p> <p>Y -.-</p> <p>Z --.</p>	<p>A .-</p> <p>B -...-</p> <p>C -.-.-</p> <p>D -..-</p> <p>E .</p> <p>F ..-</p> <p>G -.</p> <p>H</p> <p>I ..</p> <p>J .-</p> <p>K -.-</p> <p>L .-..</p> <p>M --</p> <p>N -.-</p> <p>O ---</p> <p>P .--.</p> <p>Q --.-</p> <p>R .-.</p> <p>S ...</p> <p>T -</p> <p>U ..-</p> <p>V ...-</p> <p>W -.-</p> <p>X -..-</p> <p>Y -.-</p> <p>Z --.</p> <p>& .-..-</p>
There are no space letters in the Continental Code	C, O, R, Y, Z and & are composed of dots and spaces T is a short dash L is a longer dash Zero (0) is usually abbreviated to T
<p>Figures</p> <p>1 .-..-</p> <p>2 ..-..</p> <p>3 ...-</p> <p>4</p> <p>5-</p> <p>6-</p> <p>7-</p> <p>8-</p> <p>9-</p> <p>0-</p>	<p>Figures</p> <p>1 .-..-</p> <p>2 ..-..</p> <p>3 ...-</p> <p>4</p> <p>5-</p> <p>6-</p> <p>7-</p> <p>8-</p> <p>9-</p> <p>0-</p>
<p>Punctuation</p> <p>(.) .-..-</p> <p>(,) -..-</p> <p>(?) ..-..</p> <p>(:) .-..-</p> <p>(;) ..-..</p> <p>(-)-</p> <p>(!) None at present</p> <p>(*) .-..-</p> <p>(/) ..-..</p> <p>()-</p> <p>(") .-..-</p> <p>(") .-..-</p>	<p>Punctuation</p> <p>(.) .-..-</p> <p>(,) -..-</p> <p>(?) ..-..</p> <p>(:) .-..-</p> <p>(;) ..-..</p> <p>(-)-</p> <p>(!) ..-..-</p> <p>(*) .-..-</p> <p>(/) ..-..-</p> <p>()-</p> <p>(") .-..-</p> <p>(") .-..-</p>

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In a dire emergency situation, use SOS by code, MAYDAY by voice.

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Smyrna, Georgia 30080
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MODEL PT-2

Model PT-2 is a continuous tuning 6-160 meter preamp, specifically designed for use with a transceiver. The PT-2 contains new sophisticated control circuitry that permits it to be added to virtually any transceiver with NO modification. No serious ham can be without one! Other features include:

- Improves sensitivity and signal-to-noise ratio
- Boosts signal up to 26 db.
- For AM or SSB.
- Bypasses itself automatically when the transceiver is transmitting.
- Dual gate FET amplifier gives superior cross-modulation protection.
- Advanced, solid-state circuitry.
- Simple to install.
- Improves immunity to transceiver front-end overload by use of its variable gain control.
- Provides master power control for station equipment.

Model PT-2, 117 volts, 60 Hz.....\$74.95
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Model PLF-2. For receiver use only. It is similar to the PT-2, except that it does not contain transceiver control circuitry or a gain control. It has a built-in power supply.

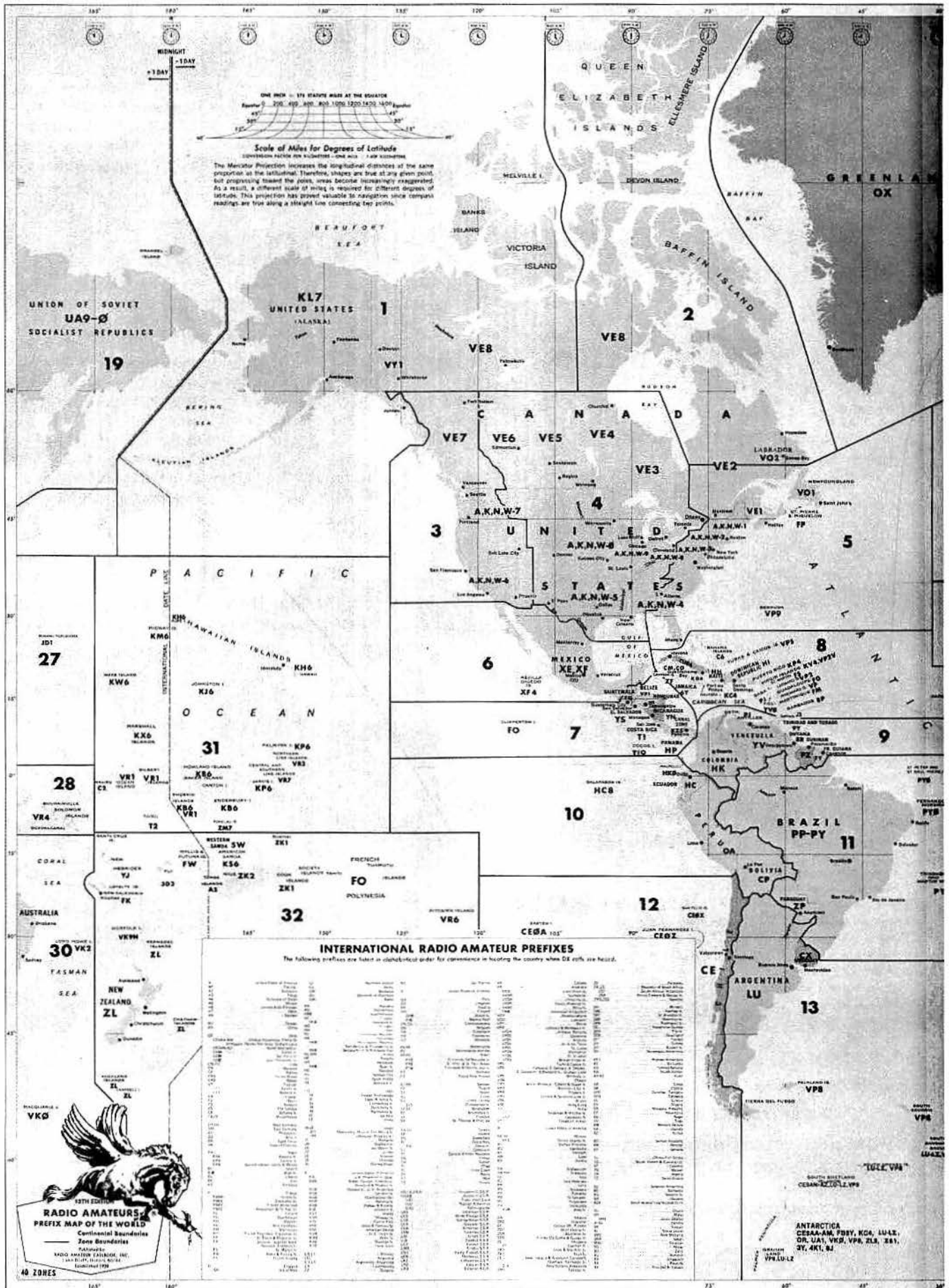
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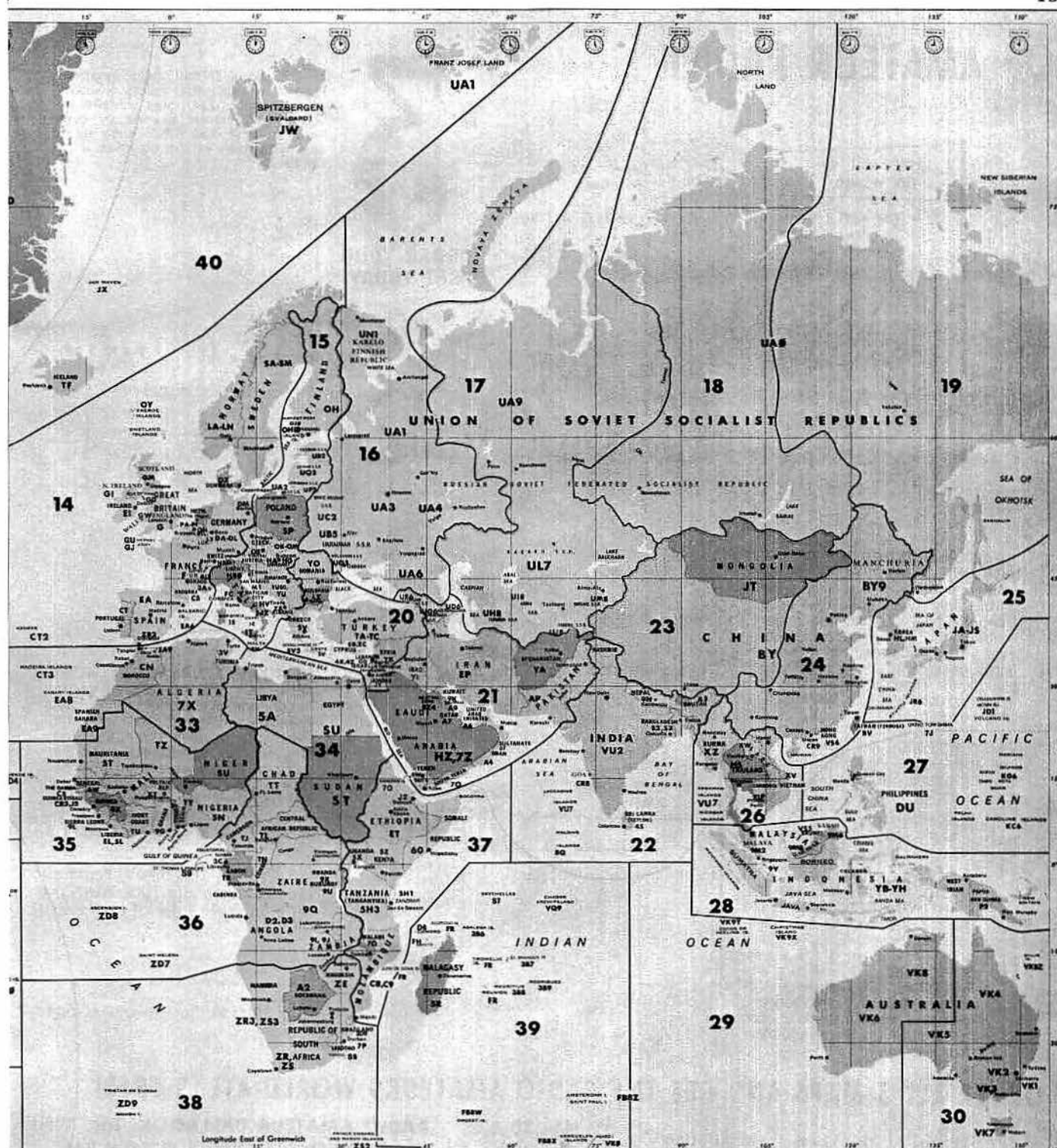
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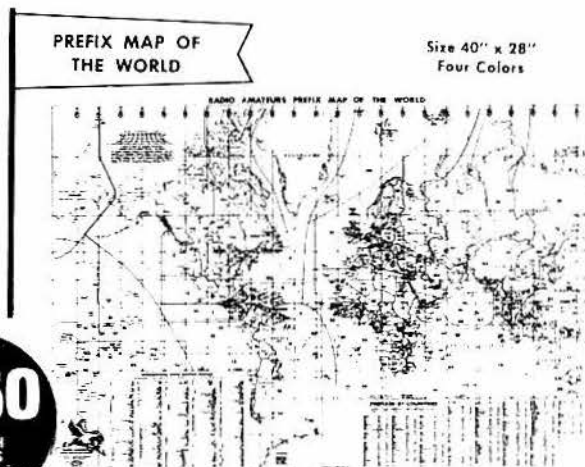
PREFIXES-BY COUNTRIES

The following countries listed in alphabetical order by country show international radio call prefixes.

Country	Prefix	Country	Prefix	Country	Prefix	Country	Prefix
Algeria	3A	France	F	Italy	I	Spain	E
Angola	3A	Germany	D	Japan	J	Sweden	S
Argentina	3A	Greece	X	Kenya	K	Switzerland	H
Australia	V	India	P	Korea	K	Taiwan	T
Austria	3A	Indonesia	Y	Latvia	L	Tanzania	T
Bahamas	3A	Iran	P	Lithuania	L	Togo	T
Bahrain	3A	Iraq	Q	Malaysia	M	Turkey	T
Barbados	3A	Israel	W	Maldives	M	Uganda	U
Belgium	B	Italy	I	Mali	M	Uganda	U
Belize	3A	Japan	J	Malta	M	United Kingdom	G
Bermuda	3A	Jordan	J	Mauritania	M	United States	A
Bhutan	3A	Kazakhstan	K	Mexico	M	Uruguay	U
Bolivia	3A	Kenya	K	Moldova	M	Uzbekistan	U
Brazil	3A	Korea	K	Monaco	M	Venezuela	V
Brunei	B	Kuwait	K	Montenegro	M	Vietnam	V
Bulgaria	B	Lebanon	L	Norway	N	Yemen	Y
Cameroon	C	Libya	L	Poland	P	Zambia	Z
Canada	C	Madagascar	M	Portugal	P	Zimbabwe	Z
Cape Verde	C	Mali	M	Romania	R		
Chad	C	Malta	M	Saudi Arabia	S		
China	C	Mauritania	M	Senegal	S		
Cyprus	C	Mexico	M	Seychelles	S		
Czech Republic	C	Moldova	M	Singapore	S		
Dominican Republic	D	Monaco	M	Slovakia	S		
Egypt	E	Montenegro	M	Slovenia	S		
El Salvador	E	Norway	N	Somalia	S		
Equatorial Guinea	E	Poland	P	South Africa	S		
Ethiopia	E	Portugal	P	South Korea	S		
Fiji	F	Romania	R	Spain	E		
Finland	F	Saudi Arabia	S	Sweden	S		
France	F	Senegal	S	Switzerland	H		
Gabon	G	Seychelles	S	Taiwan	T		
Gambia	G	Singapore	S	Tanzania	T		
Germany	D	Slovakia	S	Togo	T		
Ghana	G	Slovenia	S	Turkey	T		
Greece	X	Somalia	S	Uganda	U		
Guatemala	G	South Africa	S	United Kingdom	G		
Haiti	H	South Korea	S	United States	A		
Honduras	H	Spain	E	Uruguay	U		
Hungary	H	Sweden	S	Uzbekistan	U		
Iceland	I	Switzerland	H	Venezuela	V		
India	P	Taiwan	T	Vietnam	V		
Indonesia	Y	Tanzania	T	Yemen	Y		
Iran	P	Togo	T	Zambia	Z		
Iraq	Q	Turkey	T	Zimbabwe	Z		
Israel	W	Uganda	U				
Italy	I	United Kingdom	G				
Japan	J	United States	A				
Jordan	J	Uruguay	U				
Kazakhstan	K	Uzbekistan	U				
Kenya	K	Venezuela	V				
Korea	K	Vietnam	V				
Kuwait	K	Yemen	Y				
Latvia	L	Zambia	Z				
Lithuania	L	Zimbabwe	Z				
Malaysia	M						
Maldives	M						
Mali	M						
Malta	M						
Mauritania	M						
Mexico	M						
Moldova	M						
Monaco	M						
Montenegro	M						
Norway	N						
Poland	P						
Portugal	P						
Romania	R						
Saudi Arabia	S						
Senegal	S						
Seychelles	S						
Singapore	S						
Slovakia	S						
Slovenia	S						
Somalia	S						
South Africa	S						
South Korea	S						
Spain	E						
Sweden	S						
Switzerland	H						
Taiwan	T						
Tanzania	T						
Togo	T						
Turkey	T						
Uganda	U						
United Kingdom	G						
United States	A						
Uruguay	U						
Uzbekistan	U						
Venezuela	V						
Vietnam	V						
Yemen	Y						
Zambia	Z						
Zimbabwe	Z						

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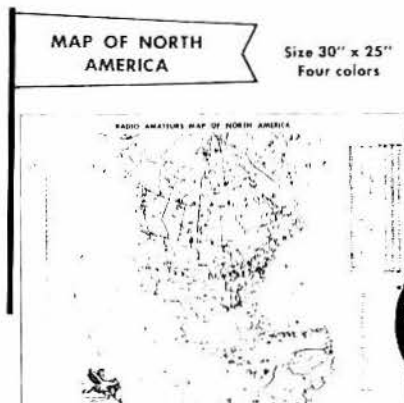


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	AMSTERDAM, HOLLAND	ANCHORAGE, ALASKA	ASUNCION, PARAGUAY	AUCKLAND, NEW ZEALAND	BOGOTA, COLOMBIA	BOMBAY, INDIA	BERN, SWITZERLAND	BRUSSELS, BELGIUM	BUENOS AIRES, ARGENTINA	CAIRO, EGYPT	CAPETOWN, SOUTH AFRICA	CARACAS, VENEZUELA	COPENHAGEN, DENMARK	GUATEMALA CITY, GUATEMALA	HAVANA, CUBA	HELSINKI, FINLAND	HONOLULU, HAWAII	JOHANNESBURG, SOUTH AFRICA	LA PAZ, BOLIVIA	LIMA, PERU	LONDON, ENGLAND	MADRID, SPAIN	MANILA, PHILIPPINES	MEXICO CITY, MEXICO	MONTEVIDEO, URUGUAY	MONTREAL, CANADA	OSLO, NORWAY	PARIS, FRANCE	PRAGUE, CZECHOSLOVAKIA	QUITO, ECUADOR	RIO DE JANEIRO, BRAZIL	ROME, ITALY	SAN JOSE, COSTA RICA	SANTIAGO, CHILE	SHANGHAI, CHINA	SINGAPORE	STOCKHOLM, SWEDEN	SYDNEY, AUSTRALIA	TOKYO, JAPAN
ATLANTA, GA.	43	325	153	242	160	26	48	45	158	51	114	141	38	198	170	30	280	102	160	170	45	58	329	227	156	32	34	47	42	170	139	51	179	168	336	346	33	254	324
BIRMINGHAM, ALA.	42	325	151	241	155	23	47	44	156	50	113	137	37	191	158	29	279	101	157	167	44	57	327	221	154	36	33	47	42	165	137	50	173	166	334	342	32	253	323
BISMARCK, N. D.	42	315	141	240	143	7	45	43	146	40	97	131	35	162	142	27	261	81	146	154	45	56	317	177	145	84	33	46	39	151	129	46	153	155	325	328	30	256	314
BOSTON, MASS.	51	321	167	253	186	36	56	53	169	60	117	172	45	217	210	36	284	105	177	187	53	68	346	235	168	33	40	56	50	191	153	59	205	181	349	7	39	270	335
BUFFALO, N. Y.	49	320	160	250	177	29	53	51	163	55	112	159	42	203	189	34	279	99	168	178	51	65	338	222	161	54	38	53	47	179	146	56	189	173	342	356	37	266	329
CHARLESTON, W. VA.	46	322	156	246	167	28	50	47	160	53	113	151	40	201	183	32	279	101	164	174	48	61	334	224	159	37	36	50	45	175	143	53	185	170	339	351	35	259	327
CHEYENNE, WYO.	38	322	138	236	135	3	41	40	143	37	100	122	32	151	127	24	263	84	141	148	41	52	312	166	142	69	30	42	36	143	126	42	144	152	322	321	27	250	312
CHICAGO, ILL.	45	320	152	245	158	21	49	47	156	49	108	144	39	186	165	31	274	95	158	167	48	60	328	207	154	66	36	50	44	167	138	51	173	166	335	343	34	260	323
CLEVELAND, OHIO	47	320	157	247	167	27	52	49	161	53	111	153	41	198	182	33	278	99	165	174	50	63	334	219	159	53	37	52	46	175	143	54	184	171	340	352	36	263	327
COLUMBIA, S. C.	44	324	156	243	166	29	49	46	161	53	115	148	39	206	186	31	281	103	164	175	46	59	333	232	159	24	35	48	44	175	142	52	187	171	339	352	34	255	327
DALLAS, TEXAS	39	326	142	237	138	12	43	41	148	44	110	127	34	161	123	26	274	97	146	154	42	53	317	189	147	48	31	43	38	149	130	45	150	157	326	326	29	249	317
DENVER, COLORADO	38	321	137	235	133	2	41	39	143	37	101	120	32	149	124	24	264	85	141	147	41	52	312	164	142	66	29	42	35	142	125	42	142	152	321	320	27	249	312
DES MOINES, IOWA	43	320	146	242	149	15	47	44	151	45	105	135	37	173	149	28	270	90	152	160	46	58	323	194	150	68	34	47	41	158	134	48	162	161	330	335	32	256	319
DETROIT, MICH.	47	320	156	247	166	25	51	49	160	52	110	151	41	195	178	32	277	97	163	173	50	63	333	216	159	62	37	52	46	173	142	54	182	169	339	350	35	263	326
EL PASO, TEXAS	36	329	135	233	125	1	39	37	142	37	108	111	30	136	106	22	270	94	137	142	38	49	308	150	140	52	27	40	34	135	124	41	131	149	319	313	25	245	312
HELLNA, MONTANA	36	318	133	233	130	355	39	38	138	31	89	119	30	144	124	22	252	71	136	142	39	49	308	154	137	78	28	40	33	138	121	39	138	147	317	316	25	249	307
HOUSTON, TEXAS	39	328	143	237	137	15	43	41	149	45	113	120	34	162	116	26	277	100	147	154	41	53	317	199	147	41	30	43	38	149	130	46	150	158	327	326	29	247	318
INDIANAPOLIS, IND.	45	321	153	244	160	23	49	47	157	50	110	144	39	190	168	31	276	97	160	169	47	60	329	212	155	54	35	49	43	168	139	52	176	167	336	345	34	259	324
JACKSONVILLE, FLA.	42	326	155	242	163	30	48	44	160	53	117	147	37	209	185	30	283	105	163	173	44	57	331	239	158	70	33	47	42	174	141	51	187	170	338	350	33	251	326
KANSAS CITY, MO.	42	322	145	240	146	14	45	43	151	45	107	132	36	171	143	28	271	93	151	159	44	56	321	193	149	61	33	46	40	156	133	47	159	160	329	333	31	254	319
LITTLE ROCK, ARK.	41	325	146	240	147	17	45	43	152	47	111	130	36	175	141	28	275	98	152	160	43	56	322	203	150	47	32	45	40	157	134	48	161	161	320	334	31	252	320
LOS ANGELES, CALIF.	31	333	127	228	116	347	34	33	135	28	102	104	26	121	100	18	260	84	128	132	34	44	300	126	134	58	24	35	28	124	117	34	119	141	312	303	21	241	306
LOUISVILLE, KY.	44	322	153	244	160	23	49	46	157	50	111	144	39	191	168	30	277	98	160	169	47	60	329	215	156	47	35	49	43	168	139	51	176	167	336	345	33	257	324
MIAMI, FLORIDA	41	328	155	240	163	33	47	43	160	54	118	138	37	223	217	30	285	108	163	175	43	56	331	254	158	13	33	46	42	176	140	50	194	171	339	351	32	247	327
MILWAUKEE, WIS.	45	319	152	245	158	20	50	47	156	49	107	145	39	185	165	31	273	94	158	167	48	61	328	205	154	72	36	50	44	166	138	52	173	165	335	343	34	261	323
MINNEAPOLIS, MINN.	44	317	147	243	152	15	48	46	152	46	103	139	38	175	154	29	270	90	153	161	47	59	324	193	150	81	35	49	42	160	134	49	164	161	331	337	33	259	319
NASHVILLE, TENN.	43	323	151	242	157	23	48	45	156	50	112	140	38	190	162	30	277	99	158	167	46	58	328	216	155	43	34	48	42	166	138	50	174	166	335	343	33	255	324
NEW ORLEANS, LA.	40	327	147	239	146	21	45	42	153	48	114	127	35	182	133	28	279	102	152	161	43	55	322	220	151	35	32	45	40	158	135	48	163	162	331	334	30	249	321
NEW YORK, N. Y.	49	321	164	251	180	34	54	51	167	58	116	166	43	214	204	35	283	104	173	184	51	66	343	233	165	4	39	54	48	187	150	57	199	177	346	3	38	266	333
NORFOLK, VA.	46	323	161	247	176	33	51	48	165	56	116	160	41	213	203	33	283	104	170	181	48	62	339	235	163	12	36	51	46	184	147	55	197	175	344	0	36	260	331
PHILADELPHIA, PA.	48	322	163	249	178	33	53	50	166	57	115	164	42	212	202	34	282	103	172	182	50	65	341	232	164	11	38	53	48	185	149	56	197	176	345	2	37	264	332
PHOENIX, ARIZONA	34	330	131	231	121	354	37	35	138	33	105	108	28	129	104	20	265	89	133	138	36	47	304	137	137	56	26	38	31	130	121	38	126	146	316	308	23	243	309
PITTSBURGH, PA.	47	321	158	247	170	29	52	49	162	54	113	155	41	203	187	33	279	100	167	176	49	63	336	224	160	41	37	52	46	178	145	55	188	172	341	354	36	262	329
ST. LOUIS, MO.	43	322	149	242	153	19	47	45	154	48	109	137	37	181	156	29	274	96	155	164	46	58	325	204	152	55	34	47	42	162	136	49	167	163	332	339	32	256	321
SALT LAKE CITY, UTAH	35	325	132	232	127	355	38	36	139	32	96	114	29	138	116	21	258	79	135	141	38	48	307	149	136	67	27	39	32	135	121	38	134	146	317	313	24	247	308
SAN FRANCISCO, CALIF.	30	333	125	226	115	343	32	31	132	24	95	104	24	121	101	16	252	74	126	130	33	42	298	126	131	62	22	33	26	123	115	32	119	139	310	301	19	240	303
SEATTLE, WASHINGTON	31	321	125	227	120	345	33	32	131	23	79	110	25	131	113	17	240	58	128	133	34	43	300	138	130	75	24	35	27	128	113	32	127	139	309	306	20	243	301
WASHINGTON, D. C.	47	322	161	248	175	32	52	49	164	56	115	160	41	210	198	33	282	103	170	180	49	63	339	231	163	20	37	52	47	182	147	55	194</						

INTERNATIONAL "Q" SIGNALS

Abbreviation	Question	Answer or Advice	Abbreviation	Question	Answer or Advice
QRA	What is the name of your station?	The name of my station is . . .	Q8X	Will you listen to . . . [call sign(s)] on . . . kc/s (or Mc/s)?	I am listening to . . . [call sign(s)] on . . . kc/s (or Mc/s).
QRB	How far approximately are you from my station?	The approximate distance between our stations is . . . nautical miles (or kilometres).	Q8Y	Shall I change to transmission on another frequency?	Change to transmission on another frequency [or on . . . kc/s (or Mc/s)].
QRD	Where are you bound and where are you from?	I am bound for . . . from . . .	Q8Z	Shall I send each word or group more than once?	Send each word or group twice (or . . . times).
QRG	Will you tell me my exact frequency or that of . . .?	Your exact frequency (or that of . . . is . . . kc/s (or Mc/s).	QTA	Shall I cancel telegram number . . . as if it had not been sent?	Cancel telegram number . . . as if it had not been sent.
QRH	Does my frequency vary?	Your frequency varies.	QTB	Do you agree with my counting of words?	I do not agree with your counting of words; I will repeat the first letter or digit of each word or group.
QRI	How is the tone of my transmission?	The tone of your transmission is . . . (1. Good; 2. Variable; 3. Bad).	QTC	How many telegrams have you to send?	I have . . . telegrams for you (or for . . .).
QRK	What is the readability of my signals (or those of . . .)?	The readability of your signals (or those of . . .) is . . . (1. Unreadable; 2. Readable now and then; 3. Readable, but with difficulty; 4. Readable; 5. Perfectly readable).	QTE	What is my TRUE bearing from you?	Your TRUE bearing from me is . . . degrees (at . . . hours).
QRL	Are you busy?	I am busy (or I am busy with . . .). Please do not interfere.		What is my TRUE bearing from . . . (call sign)?	Your TRUE bearing from . . . (call sign) was . . . degrees (at . . . hours).
QRM	Are you being interfered with?	I am being interfered with.		What is the TRUE bearing of . . . (call sign) from . . . (call sign)?	The TRUE bearing of . . . (call sign) from . . . (call sign) was . . . degrees (at . . . hours).
QRN	Are you troubled by static?	I am troubled by static.	QTG	Will you send two dashes of ten seconds each followed by your call sign (repeated . . . times) [on . . . kc/s (or Mc/s)]?	I am going to send two dashes of ten seconds each followed by my call sign (repeated . . . times) [on . . . kc/s (or Mc/s)].
QRO	Shall I increase power?	Increase power.		Will you request . . . to send two dashes of ten seconds followed by his call sign (repeated . . . times) on . . . kc/s (or Mc/s)?	I have requested . . . to send two dashes of ten seconds followed by his call sign (repeated . . . times) on . . . kc/s (or Mc/s).
QRP	Shall I decrease power?	Decrease power.	QTH	What is your position in latitude and longitude (or according to any other indication)?	My position is . . . latitude . . . longitude (or according to any other indication).
QRQ	Shall I send faster?	Send faster (. . . words per minute).	QTI	What is your TRUE track?	My TRUE track is . . . degrees.
QRR	Are you ready for automatic operation?	I am ready for automatic operation. Send at . . . words per minute.	QTI	What is your speed?	My speed is . . . knots (or kilometres per hour).
QRS	Shall I send more slowly?	Send more slowly (. . . words per minute).	QTL	What is your TRUE heading?	My TRUE heading is . . . degrees.
QRT	Shall I stop sending?	Stop sending.	QTN	At what time did you depart from . . . (place)?	I departed from . . . (place) at . . . hours.
QRU	Have you anything for me?	I have nothing for you.	QTO	Have you left dock (or port)?	I have left dock (or port).
QRV	Are you ready?	I am ready.		Are you airborne?	I am airborne.
QRW	Shall I inform . . . that you are calling him on . . . kc/s (or Mc/s).	Please inform . . . that I am calling him on . . . kc/s (or Mc/s).	QTP	Are you going to enter dock (or port)?	I am going to enter dock (or port).
QRX	When will you call me again?	I will call you again at . . . hours [on . . . kc/s (or Mc/s)].		Are you going to alight (or land)?	I am going to alight (or land).
QRY	What is my turn?	Your turn is Number . . . (Relates to communication.)	QTK	Can you communicate with my station by means of the International Code of Signals?	I am going to communicate with your station by means of the International Code of Signals.
QRZ	Who is calling me?	You are being called by . . . [on . . . kc/s (or Mc/s)].	QTR	What is the correct time?	The correct time is . . . hours.
QSA	What is the strength of my signals (or those of . . .)?	The strength of your signals (or those of . . .) is . . . (1. Scarcely perceptible; 2. Weak; 3. Fairly good; 4. Good; 5. Very good).	QTS	Will you send your call sign for . . . minute(s) now (or at . . . hours) [on . . . kc/s (or Mc/s)] so that your frequency may be measured?	I will send my call sign for . . . minute(s) now (or at . . . hours) [on . . . kc/s (or Mc/s)] so that my frequency may be measured.
QSB	Are my signals fading?	Your signals are fading.	QTV	What are the hours during which your station is open?	My station is open from . . . to . . . hours.
QSD	Is my keying defective?	Your keying is defective.	QTV	Shall I stand guard for you on the frequency of . . . kc/s (or Mc/s) (from . . . to . . . hours)?	Stand guard for me on the frequency of . . . kc/s (or Mc/s) (from . . . to . . . hours).
QSG	Shall I send . . . telegrams at a time?	Send . . . telegrams at a time.	QTX	Will you keep your station open for further communication with me until further notice (or until . . . hours)?	I will keep my station open for further communication with you until further notice (or until . . . hours).
QSH	What is the charge to be collected per word to . . . including your internal telegraph charge?	The charge to be collected per word to . . . including my internal telegraph charge is . . . francs.	QUA	Have you news of . . . (call sign)?	Here is news of . . . (call sign).
QSK	Can you hear me between your signals?	I can hear you between my signals.	QUB	Can you give me, in the following order, information concerning: visibility, height of clouds, direction and velocity of ground wind at . . . (place of observation)?	Here is the information requested . . .
QSL	Can you acknowledge receipt?	I am acknowledging receipt.	QUC	What is the number (or other indication) of the last message you received from me [or from (call sign)]?	The number (or other indication) of the last message I received from you [or from . . . (call sign)] is . . .
QSM	Shall I repeat the last telegram which I sent you, or some previous telegram?	Repeat the last telegram which you sent me [or telegram(s) number(s) . . .].	QUD	Have you received the urgency signal sent by . . . (call sign of mobile station)?	I have received the urgency signal sent by . . . (call sign of mobile station) at . . . hours.
QSN	Did you hear me [or . . . (call sign)] on . . . kc/s (or Mc/s)?	I did hear you [or . . . (call sign)] on . . . kc/s (or Mc/s).	QUF	Have you received the distress signal sent by . . . (call sign of mobile station)?	I have received the distress signal sent by . . . (call sign of mobile station) at . . . hours.
QSO	Can you communicate with . . . direct or by relay?	I can communicate with . . . direct (or by relay through . . .).	QUG	Will you be forced to alight (or land)?	I am forced to alight (or land immediately).
QSP	Will you relay to . . . free of charge?	I will relay to . . . free of charge.		I shall be forced to alight (or land) at . . . (position or place).	
QSQ	Have you a doctor on board [or is . . . (name of person) on board]?	I have a doctor on board [or . . . (name of person) is on board].	QUH	Will you give me the present barometric pressure at sea level?	The present barometric pressure at sea level is . . . (units).
QSU	Shall I send or reply on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .)?	Send or reply on this frequency (or on . . . kc/s (or Mc/s)) (with emissions of class . . .).			
QSV	Shall I send a series of V's on this frequency [or . . . kc/s (or Mc/s)]?	Send a series of V's on this frequency [or . . . kc/s (or Mc/s)].			
QSW	Will you send on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .)?	I am going to send on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .).			

STANDARD TIME THROUGHOUT THE WORLD

23

The standard time system is based on the theoretical division of the surface of the globe into 24 zones, each of 15° of longitude. The initial zone is the one which has as its central meridian the Greenwich Meridian and with the meridians 75°30' E. and 75°30' W. as its eastern and western limits. Time in this zone is called Greenwich Mean Time, or GMT. Places to the east of Greenwich have faster time than Greenwich, while places to the west have slower time. Not all countries follow the International Time Zone System, but some use the time of some principal city as a standard and others have no standard time.

Reference: "Standard Time Chart of the World" No. 5192, published by U.S. Navy Hydrographic Office, Washington, D.C.

The theoretical system described is applied, in a strict sense, only in oceanic regions. On land or on groups of islands the system is applied with certain local deviation, which are rendered necessary by frontiers, convenience of an entire island group to maintain same zone time, etc. The time used in each country, whether it is the time of the corresponding zone or modified for reasons given, is an hour fixed by law and, for this reason, is called legal time, or more generally standard time.

Another deviation from this theoretical system is that certain countries, for economic reasons, modify their legal time for part of the year, especially in summer, by advancing it an hour or another fraction of time. Where such deviations are maintained on a year-round basis, the time kept is considered to be standard time.

Country	Standard or Local Time		Country	Standard or Local Time		Country	Standard or Local Time	
	Hours fast or slow of GMT	hrs GMT		Hours fast or slow of GMT	hrs GMT		Hours fast or slow of GMT	hrs GMT
Albania	+ 4%	16.30	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Aland Is.	+ 2	14.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Alaska	+ 8	04.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Yakutat	+ 9	03.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Central Part, Kodiak Is.	+ 10	02.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
West Coast, Aleutian Is.	+ 11	01.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Albania	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Algeria	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Amsterdam Is.	+ 5	17.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Andaman Is.	+ 5%	17.30	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Andorra	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Angola	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Argentina	+ 3	09.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Aruba Is.	+ 4	08.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Ascension Is.	+ 0	12.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Australia: Western Australia	+ 8	20.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Northern Territory, South Australia	+ 9%	21.30	Algeria	+ 1	13.00	Algeria	+ 1	13.00
New South Wales, Queensland, and Victoria	+ 10	22.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Austria	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Azores Is.	+ 1	11.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Bahamas	+ 5	07.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Bahrain	+ 4	16.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Baker Is. (U.S.)	+ 11	01.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Baleares Is.	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Bangladesh	+ 5%	18.30	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Barbados	+ 4	08.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Belgium	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Belize	+ 6	06.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Benin	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Bermuda Is.	+ 4	08.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Bhutan	+ 5%	17.30	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Bolivia	+ 4	08.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Bonaire Is.	+ 4	08.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Borneo (Indonesia)	+ 8	20.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Botswana	+ 2	14.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Brazil: East of 52° 30' W. (approx.)	+ 3	09.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Amazonas, Mato Grosso, and Acre Territory	+ 5	07.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
British Isles	+ 0	12.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Brunei	+ 8	20.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Bulgaria	+ 3	15.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Burkina Faso	+ 6%	18.30	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Burundi	+ 2	14.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Cacoris Is.	+ 5	07.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Cambodia	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Cameroon	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Canada: Belle Isle, Labrador, & Newfoundland	+ 3%	08.30	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Anticosti Is., Cape Breton Is., Magdalen Is., New Brunswick, Nova Scotia, Prince Edward Is., Quebec (E. of 68° W.), & Sable Is.	+ 4	08.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Melville Peninsula (East), Ontario (E. of 90° W.), Quebec (W. of 68° W.), and Southampton Is.	+ 5	07.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Manitoba, Ontario (W. of 90° W.), Melville Peninsula (West), and N. W. Territories (East)	+ 6	06.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Alberta, Saskatchewan, and N. W. Territories (Middle)	+ 7	05.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
British Columbia, and N. W. Territories (West)	+ 8	04.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Yukon	+ 9	03.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Arctic Is.	+ 5	07.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Canal Zone (U.S.)	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Canton Is. (U.S.)	+ 11	01.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Cape Verde	+ 1	11.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Caroline Is.: Palau	+ 8	20.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Truk	+ 10	22.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Ponape	+ 11	23.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Cayman Is.	+ 5	07.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Celebes Is. (Indonesia)	+ 8	20.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Central African Republic	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Chad	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Chagos Is.	+ 5	17.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Chatham Is.	+ 12%	20.45	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Chile	+ 4	08.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
China: Western part	+ 6	18.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Mid Western part	+ 7	19.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
East Western part	+ 8	20.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Eastern part	+ 8%	20.30	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Christmas Is.	+ 7	19.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Clipperton Is.	+ 2	05.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Cocos Is.	+ 6	06.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Cocos (Killing) Is.	+ 6%	18.30	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Columbia	+ 5	07.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Comoros Is.	+ 3	15.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Congo	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Cook Is.	+ 10%	01.30	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Costa Rica	+ 6	06.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Crete	+ 2	14.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Crozet Is.	+ 3	15.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Cuba	+ 5	07.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Curacao Is.	+ 4	08.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Cyprus	+ 2	14.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Czechoslovakia	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Dominica	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Djibouti	+ 3	15.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Dominican Republic	+ 4	08.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
East Is.	+ 7	05.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Equador	+ 5	07.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Egypt	+ 2	14.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
El Salvador	+ 6	06.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Emberbury Is. (U.S.)	+ 11	01.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Equatorial Guinea	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Ethiopia	+ 3	15.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Faeroe Is.	+ 0	12.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Falkland Is.	+ 4	08.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Fanning Is.	+ 10	02.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Fernando de Noronha Is.	+ 2	10.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Fiji Is.	+ 12	24.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Finland	+ 2	14.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
France	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
French Guiana	+ 4	08.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
French Polynesia	+ 10	02.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Gabon	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Galapagos Is.	+ 5	07.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Gambia, The	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Ghana	+ 0	12.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Gibraltar	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Gilbert Is.	+ 12	24.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Gough Is.	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Greenland: Eastern	+ 2	14.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Western	+ 3	09.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Guadeloupe Is.	+ 4	08.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Guam Is.	+ 10	02.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Guantanamo Bay	+ 5	07.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Guatemala	+ 6	06.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Guinea	+ 0	12.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Guinea-Bissau	+ 0	12.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Guyana	+ 3%	08.15	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Haiti	+ 5	07.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Hawaii	+ 10	02.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Heard Is.	+ 5	17.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Honduras	+ 6	06.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Hong Kong	+ 8	20.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Howland Is. (U.S.)	+ 11	01.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Hungary	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Iceland	+ 0	12.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
India	+ 5%	17.30	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Iran	+ 3%	15.30	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Iraq	+ 3	15.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Ireland	+ 0	12.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Israel	+ 2	14.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Italy	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Ivory Coast	+ 0	12.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Jamaica	+ 5	07.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Jan Mayen Is.	+ 1	13.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Japan	+ 9	21.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Jarvis Is.	+ 10	02.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Jawa (Indonesia)	+ 7	19.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Johnston Is.	+ 11	01.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Jordan	+ 2	14.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00
Juan Fernandez Is. (Chile)	+ 4	08.00	Algeria	+ 1	13.00	Algeria	+ 1	13.00

FEDERAL COMMUNICATIONS COMMISSION EXAMINATION POINTS

Examinations for commercial and amateur radio operator licenses are conducted at the following F.C.C. field offices on the days designated by the Engineer in Charge of each office. Specific dates should be obtained from the Engineer in Charge.

OFFICE LOCATION

Alaska, Anchorage 99510
U. S. Post Office Building -- Room G63
4th & G Street, P. O. Box 644

California, Long Beach 90807
3711 Long Beach Blvd., Suite 501

California, San Diego 92101
Fox Theatre Building, 1245 7th Avenue

California, San Francisco 94111
555 Battery Street, 323A Customhouse

Colorado, Denver 80202
The Executive Tower -- Suite 2925
1405 Curtis Street

District of Columbia -- Washington, DC 20554
Room 411, 1919 M Street NW

Florida, Miami 33130
919 Federal Building
51 SW 1st Avenue

Florida, Tampa 33607
ADP Building -- Suite 601
1211 North Westshore Blvd.

Georgia, Atlanta 30309
440 Massell Building
1365 Peachtree Street NE

Georgia, Savannah 31402
238 Federal Office Bldg. & Courthouse
125 Bull Street, P. O. Box 8004

Hawaii, Honolulu 96808
502 Federal Building
335 Merchant St., P.O. Box 1021

Illinois, Chicago 60604
3935 Federal Building
230 South Dearborn Street

Louisiana, New Orleans 70130
829 F. Edward Hebert Federal Building
600 South Street

Maryland, Baltimore 21201
George M. Fallon Federal Bldg. - Room 823
31 Hopkins Plaza

Massachusetts, Boston 02109
1600 Customhouse - 165 State Street

Michigan, Detroit 48226
1054 Federal Bldg. & U S Courthouse
231 West Lafayette Street

Minnesota, St. Paul 55101
691 Federal Building
316 North Robert Street

Missouri, Kansas City 64133
Brywood Office Tower -- Suite 320
8800 East 63rd Street

New York, Buffalo 14202
1307 Federal Building
111 West Huron St. at Delaware Ave.

New York, New York 10014
201 Varick Street

Oregon, Portland 97204
1782 Federal Office Building
1220 SW 3rd Avenue

Pennsylvania, Philadelphia 19106
11425 James A. Byrne Federal Courthouse
601 Market Street

Puerto Rico, San Juan 00903
U. S. Post Office and Courthouse - Room 323

Texas, Beaumont 77701
323 Federal Building
300 Willow Street

Texas, Dallas 75242
Earle Cabell Federal Bldg. -- Room 13E7
1100 Commerce Street

Texas, Houston 77002
5636 Federal Building
515 Rusk Avenue

Virginia, Norfolk 23502
Military Circle
870 North Military Highway

Washington, Seattle 98174
3256 Federal Building
915 2nd Avenue

SPECIAL ARRL QN SIGNALS FOR NET USE

- QNA*** Answer in prearranged order.
- QNB*** Act as relay Between and
- QNC** All net stations Copy.
I have a message for all net stations.
- QND*** Net is Directed (controlled by net control station).
- QNE*** Entire net please stand by.
- QNF** Net is Free (not controlled).
- QNG** Take over as net control station.
- QNH** Your net frequency is High.
- QNI** Net stations report In.*
I am reporting into the net.
- QNJ** Can you copy me? Can you copy?
- QNK*** Transmit messages for to
- QNL** Your net frequency is Low.
- QNM*** You are QRMing the net. Please stand by.
- QNN** Net control station is
What station has net control?
- QNO** Station is leaving the net.
- QNP** Unable to copy you for
- QNQ*** Move frequency to . . . and wait for . . . to finish handling traffic. Then send him traffic for
- QNR*** Answer . . . and Relay (or Receive) traffic.
- QNS** Following Stations are in the net.* (Follow with list).
Request list of stations in the net.
- QNT** Leaving net Temporarily for for . . . minutes).
- QNU*** The net has traffic for YOU. Stand by.
- QNV*** Establish contact with on this frequency.
If successful, move to . . . and send him traffic for
- QNW** How do I route messages for?
- QNX** You are excused from the net.*
Request to be excused from the net.
- QNY*** Shift to another frequency (or to kc.)
to clear traffic with
- QNZ** Zero beat your signal with mine.

*For use only by Net Control Station

Notes on the Use of QN Signals

- The QN signals listed above are special ARRL signals for use in amateur c.w. nets only. Other meanings that may be used in other services do not apply.
- Some QN signals are for use by net control stations only; these are marked with an asterisk (*). Others have slightly different meanings when used by the NCS and net stations; in this case, the meaning when used by the NCS is marked with an asterisk (*).
- Some QN signals have two meanings, the difference depending on how or by whom used. Examples: (a) QNC, when used as a preface to transmission of a message, carries its first meaning; when used by a station reporting into the net (e.g., W9NCS DE W9NET QNI QNC), it carries its second meaning. (b) QNT, when used by the NCS, is a request for stations to report in; when used by a net station, it means that this station is reporting in. (c) QNJ, when used alone, carries its first meaning; when followed by a call, it carries the second meaning.
- QN signals are never followed by a question mark, even though the meaning may be interrogatory.
- Do not use QN signals on phone nets. Say it with words.
- Use QN signals in nets only. They are not for use in casual amateur conversation.
- Make frequent use of standard international "Q" signals in traffic nets, for meanings not covered by QN signals. Examples: QRU, QRV, QSA, QTB, QTH, etc.

ARRL Communications Department

ARRL Adopted ICAO Phonetic Alphabet

(International Civil
Aviation Organization)

- A** ALFA
B BRAVO
C CHARLIE
D DELTA
E ECHO
F FOXTROT
G GOLF
H HOTEL
I INDIA
J JULIETT
K KILO
L LIMA
M MIKE
N NOVEMBER
O OSCAR
P PAPA
Q QUEBEC
R ROMEO
S SIERRA
T TANGO
U UNIFORM
V VICTOR
W WHISKEY
X X-RAY
Y YANKEE
Z ZULU

ON GOOD PHONE OPERATING

- Listen much . . . with care. Avoid distractions in your operating room. Tune the band well after each call.
- Time your calls; monitor your own frequency. Call only when a station is free.
- Make short calls, with breaks to listen. Speak clearly, at a steady, modest rate. Three short calls are better than one long one.
- Use push-to-talk technique . . . speak near the mike. Watch the modulation indicator. Keep local background noise at a minimum.
- Make notes. Avoid missing points for comment. Jot down topics to avoid repeats.
- Talk in connected thoughts and phrases. Notes will help avoid mixing up subjects. Push-to-talk technique will keep brother amateurs from calling you a monologist.
- Speak naturally. QSOs need not be cut and dried. Make them interesting. Avoid exhibitionism. Use proper operating form to promote efficiency in communication and add respect and prestige for your station.

Use of this standard list is recommended by ARRL. Haphazard selection of words often results in confusion. A degree of uniformity in use of phonetic words reflects favorably on your individual operating, and on the whole amateur service.

American Radio Relay League
225 Main Street
Newington, Conn. 06111

TABLE OF ALLOCATION OF INTERNATIONAL CALL SIGN SERIES

As issued by the International Telecommunication Union

AAA-ALZ	United States of America	TGA-TGZ	Guatemala	5TA-5TZ	Mauritania
AMA-AOZ	Spain	THA-THZ	France	5UA-5UZ	Niger
APA-ASZ	Pakistan	TIA-TIZ	Costa Rica	5VA-5VZ	Togo
ATA-AWZ	India	TJA-TJZ	Cameroon	5WA-5WZ	Western Samoa
AXA-AXZ	Australia	TKA-TKZ	France	5XA-5XZ	Uganda
AYA-AZZ	Argentina	TLA-TLZ	Central African Republic	5YA-5YZ	Kenya
		TMA-TMZ	France		
BAA-BZZ	China	TNA-TNZ	Congo	6AA-6BZ	Egypt
		TOA-TOZ	France	6CA-6CZ	Syria
CAA-CEZ	Chile	TRA-TRZ	Gabon	6DA-6JZ	Mexico
CFA-CKZ	Canada	TSA-TSZ	Tunisia	6KA-6NZ	Korea
CLA-CMZ	Cuba	TTA-TTZ	Chad	6OA-6OZ	Somali
CNA-CNZ	Morocco	TUA-TUZ	Ivory Coast	6PA-6SZ	Pakistan
COA-COZ	Cuba	TVA-TXZ	France	6TA-6UZ	Sudan
CPA-CPZ	Bolivia	TYA-TYZ	Benin	6VA-6WZ	Senegal
COA-CUZ	Portugal	TZA-TZZ	Mali	6XA-6XZ	Malagasy Republic
CVA-CXZ	Uruguay			6YA-6YZ	Jamaica
CYA-CZZ	Canada			6ZA-6ZZ	Liberia
		UAA-UQZ	Union of Soviet Socialist Rep.		
DAA-DTZ	Germany	URA-UTZ	Ukrainian Soviet Socialist Rep.	7AA-7IZ	Indonesia
DUA-DZZ	Philippines	UUA-UZZ	Union of Soviet Socialist Rep.	7JA-7NZ	Japan
				7OA-7OZ	South Yemen
EAA-EHZ	Spain	VAA-VGZ	Canada	7PA-7PZ	Lesotho
EIA-EJZ	Ireland	VHA-VNZ	Australia	7QA-7QZ	Malawi
EKA-EKZ	Union of Soviet Socialist Rep.	VOA-VOZ	Canada	7RA-7RZ	Algeria
ELA-ELZ	Liberia	VPA-VSZ	Great Britain & No. Ireland	7SA-7SZ	Sweden
EMA-EOZ	Union of Soviet Socialist Rep.	VTA-VWZ	India	7TA-7YZ	Algeria
EPA-EQZ	Iran	VXA-VYZ	Canada	7ZA-7ZZ	Saudi Arabia
ERA-ERZ	Union of Soviet Socialist Rep.	VZA-VZZ	Australia		
ETA-ETZ	Ethiopia			8AA-8IZ	Indonesia
EUA-EWZ	Byelorussian SSR	WAA-WZZ	United States of America	8JA-8NZ	Japan
EXA-EZZ	Union of Soviet Socialist Rep.			8OA-8OZ	Botswana
		XAA-XIZ	Mexico	8PA-8PZ	Barbados
FAA-FZZ	France	XJA-XOZ	Canada	8QA-8QZ	Maldives Is.
		XPA-XPZ	Denmark	8RA-8RZ	Guyana
GAA-GZZ	Great Britain & No. Ireland	XQA-XRZ	Chile	8SA-8SZ	Sweden
		XSA-XSZ	China	8TA-8YZ	India
HAA-HAZ	Hungary	XTA-XTZ	Vietnam	8ZA-8ZZ	Saudi Arabia
HBA-HBZ	Switzerland	XUA-XUZ	Cambodia		
HCA-HCZ	Ecuador	XVA-XVZ	Vietnam	9AA-9AZ	San Marino
HEA-HEZ	Switzerland	XWA-XWZ	Laos	9BA-9BZ	Iran
HFA-HFZ	Poland	XXA-XXZ	Portuguese Overseas Provinces	9EA-9FZ	Ethiopia
HGA-HGZ	Hungary	XYA-XZZ	Burma	9GA-9GZ	Ghana
HHA-HHZ	Haiti			9HA-9HZ	Malta
HIA-HIZ	Dominican Republic	YAA-YAZ	Afghanistan	9IA-9JZ	Zambia
HJA-HKZ	Colombia	YBA-YHZ	Indonesia	9KA-9KZ	Kuwait
HLA-HMZ	South Korea	YIA-YIZ	Iraq	9LA-9LZ	Sierra Leone
HNA-HNZ	Iraq	YJA-YJZ	New Hebrides	9MA-9MZ	Malaysia
HOA-HPZ	Panama	YKA-YKZ	Syria	9NA-9NZ	Nepal
HQA-HRZ	Honduras	YMA-YMZ	Turkey	9OA-9OZ	Zaire
HSA-HSZ	Thailand	YNA-YNZ	Nicaragua	9UA-9UZ	Burundi
HTA-HTZ	Nicaragua	YOA-YOZ	Romania	9VA-9VZ	Singapore
HUA-HUZ	El Salvador	YSA-YSZ	El Salvador	9WA-9WZ	Malaysia
HVA-HVZ	Vatican City State	YTA-YUZ	Yugoslavia	9XA-9XZ	Rwanda
HWA-HYZ	France	YVA-YYZ	Venezuela	9YA-9ZZ	Trinidad and Tobago
HZA-HZZ	Saudi Arabia	YZA-YZZ	Yugoslavia		
		ZAA-ZAZ	Albania	A2A-A2Z	Botswana
IAA-IZZ	Italy	ZBA-ZJZ	Great Britain & No. Ireland	A3A-A3Z	Tonga
JAA-JSZ	Japan	ZKA-ZMZ	New Zealand	A4A-A4Z	Oman
JTA-JVZ	Mongolia	ZNA-ZOZ	Great Britain & No. Ireland	A5A-A5Z	Bhutan
JWA-JXZ	Norway	ZPA-ZPZ	Paraguay	A6A-A6Z	United Arab Emirates
JYA-JYZ	Jordan	ZQA-ZQZ	Great Britain & No. Ireland	A7A-A7Z	Qatar
JZA-JZZ	Indonesia	ZRA-ZRZ	South Africa-Namibia	A8A-A8Z	Liberia
		ZVA-ZZZ	Brazil	A9A-A9Z	Bahrain
KAA-KZZ	United States of America			C2A-C2Z	Nauru
LAA-LNZ	Norway	2AA-2ZZ	Great Britain & No. Ireland	C3A-C3Z	Andorra
LOA-LWZ	Argentina	3AA-3AZ	Monaco	C4A-C4Z	Cyprus
LXA-LXZ	Luxembourg	3BA-3BZ	Mauritius	C5A-C5Z	The Gambia
LZA-LZZ	Bulgaria	3CA-3CZ	Equatorial Guinea	C6A-C6Z	Bahamas
		3DA-3DM	Swaziland	C7A-C7Z	World Meteorological Organization
MAA-MZZ	Great Britain & No. Ireland	3DN-3DZ	Fiji	C8A-C8Z	Mozambique
NAA-NZZ	United States of America	3EA-3FZ	Panama		
		3GA-3GZ	Chile	D2A-D3Z	Angola
OAA-OCZ	Peru	3HA-3UZ	China	D4A-D4Z	Cape Verde
ODA-ODZ	Lebanon	3VA-3VZ	Tunisia	D5A-D5Z	Liberia
OEA-OEZ	Austria	3WA-3WZ	Vietnam	D6A-D6Z	State of Comoros
OFA-OJZ	Finland	3XA-3XZ	Guinea	D7A-D9Z	South Korea
OKA-OMZ	Czechoslovakia	3YA-3YZ	Norway		
ONA-OTZ	Belgium	3ZA-3ZZ	Poland	H2A-H2Z	Cyprus
OUA-OZZ	Denmark			H3A-H3Z	Panama
PAA-PIZ	Netherlands	4AA-4CZ	Mexico	H4A-H4Z	Solomon Is.
PJA-PJZ	Netherlands Antilles	4DA-4IZ	Philippines	H5A-H5Z	Bophuthatswana
PKA-POZ	Indonesia	4JA-4LZ	Union of Soviet Socialist Rep.		
PPA-PYZ	Brazil	4MA-4MZ	Venezuela	J2A-J2Z	Djibouti
PZA-PZZ	Surinam	4NA-4OZ	Yugoslavia	J3A-J3Z	Grenada
		4PA-4SZ	Sri Lanka	J4A-J4Z	Greece
		4TA-4TZ	Peru	J5A-J5Z	Guinea-Bissau
		4UA-4UZ	United Nations		
		4VA-4VZ	Haiti	L2A-L9Z	Argentina
QAA-QZZ	Q Signals	4WA-4WZ	North Yemen		
RAA-RZZ	Union of Soviet Socialist Rep.	4XA-4XZ	Israel	P2A-P2Z	Papua New Guinea
		4YA-4YZ	Intl Civ Aviation Organization	P3A-P3Z	Cyprus
		4ZA-4ZZ	Israel	P4A-P4Z	Netherlands Antilles
SAA-SMZ	Sweden			P5A-P5Z	North Korea
SNA-SRZ	Poland	5AA-5AZ	Libya		
SSA-SSM	Egypt	5BA-5BZ	Cyprus	S2A-S3Z	Bangladesh
SSN-STZ	Sudan	5CA-5CZ	Morocco	S6A-S6Z	Singapore
SUA-SUZ	Egypt	5HA-5IZ	Tanzania	S7A-S7Z	Seychelles
SVA-SZZ	Greece	5JA-5KZ	Colombia	S8A-S8Z	Trinidad
TAA-TCZ	Turkey	5LA-5MZ	Liberia	S9A-S9Z	St. Thomas & Principe
TDA-TDZ	Guatemala	5NA-5OZ	Nigeria	T2A-T2Z	Tuvalu
TEA-TEZ	Costa Rica	5PA-5QZ	Denmark	Y2A-Y9Z	East Germany
TFA-TFZ	Iceland	5RA-5SZ	Malagasy Republic		

A,K,N,W	First Call Area, All Calls: Hampden County Radio Association Box 216, Forest Park Station Springfield, Mass. 01108, USA	CP	Radio Club Boliviano, Box 2111, La Paz, Bolivia	HI	Radio Club Dominicano, Box 1157, Santo Domingo, Dominican Republic
	Second Call Area, All Calls: North Jersey DX Assoc., P.O. Box 8160, Haledon, N.J. 07508, USA	CP5	OSL Bureau, Box 1900, Cochabamba, Bolivia	HK	Liga Colombiana de Radioaficionados (IARU member), Box 584, Bogota, Colombia
	Third Call Area, All Calls: Leon Lapiewicz, K3TGM, P.O. Box 6238, Philadelphia, Penn. 19136, USA	CP6	OSL Bureau, Box 393, Santa Cruz, Bolivia	HK0	or Radio Club de Antioquia, Box 2500 Medellin, Colombia
	Fourth Call Area, All Single-Letter Prefixes: National Capitol DX Association, Box DX, Boyce, Va. 22620, USA	CT1, CT4	Cards for members only via REP (IARU member) Rua Dom Pedro V-7 No. 4, Lisbon 2, Portugal or Associaçao dos Radioamadores Portugueses, P.O. Box 2145, 4021 Porto Codex, Portugal	HM	or AREA, Box 51327, Barranquilla, Colombia
	Fourth Call Area, All Two-Letter Prefixes: Sterling Park Amateur Radio Club, P.O. Box 599, Sterling Park, Va. 22170, USA	CT2	Associaçao dos Radioamadores dos Acores, Box 602, Ponta Delgada, Sao Miguel Island, Azores	HP	LCRA, Box 584, Bogota, Colombia
	Fifth Call Area, All Calls: ARRL WS OSL Bureau, Box 1690, Sherman, Texas 75090, USA	CT3	Associaçao dos Radioamadores da Madeira, Box 358, Funchal, Madeira Islands	HP2	KARL, Central Box 162, Seoul 100 00, Korea
	Sixth Call Area, All Calls: ARRL Sixth (6th) District DX OSL Bureau, P.O. Box 1460, Sun Valley, California, 91352, USA	CX	Radio Club of Uruguay, Box 37, Montevideo, Uruguay	HP3	Liga Panamena Radioaficionados (IARU member), Box 175, Panama 9A, Panama
	Seventh Call Area, All Calls: Willamette Valley DX Club Inc., P.O. Box 555, Portland, Oregon 97207, USA	C2	Nauru Amateur Radio Club, Box 29, Nauru	HR	or Radio Club de Panama, Box 10745, Panama 4, Panama
	Eighth Call Area, All Calls: Columbus Amateur Radio Assoc., Radio Room, 280 E. Broad St., Columbus, Ohio 43215, USA	C6	Bahamas Amateur Radio Society, Box 6004, Nassau, Bahamas	HR1, HR4	Liga Panamena Radioaficionados, Box 568, Colon, Panama
	Ninth Call Area, All Calls: Northern Illinois DX Assoc., Box 519, Elmhurst, Illinois 60126, USA	DA-DL	Cards for members only (those with DOK numbers) via DARC Amateur- funk Zentrum (IARU Member), Lindemalle 6, Box 1155, D-3501 Baunatal 1, West Germany	HR2	c/o Esteban McKay HP3ML, Box 587, David, Chiriqui, Panama
	Zero Call Area, All Calls: W6 OSL Bureau, Ak-Sar-Bon Radio Club, P.O. Box 291, Omaha, Nebraska 68101, USA	DM	or DFV OSL Service, Box 400, D-6600 Saarbruecken, West Germany	HR5	c/o Jesus Mauricio Zacapa HR1JMZ, Box 572, Tegucigalpa, DC, Honduras
	Puerto Rico, All Calls: Radio Club de Puerto Rico, P.O. Box 1061, San Juan, Puerto Rico 00902, USA	DU	DM OSL Bureau, Box 30, Berlin 55, German Democratic Republic	HS	Radio Club Tegucigalpa, Box 149 C, Tegucigalpa, DC, Honduras
	U.S. Virgin Islands, All Calls: Graciano Belardo KV4CF, P.O. Box 572, Christianssted, St. Croix, Virgin Islands 00820, USA	D2	PARA OSL Bureau, Box 4063, Manila, Philippines	I-LZ	Radio Club de Honduras, OSL Bureau, Box 273, San Pedro Sula, Cortes, Honduras
	Hawaiian Islands, All Calls: John H. Oka KH6DO, P.O. Box 101, Aiea, Oahu, Hawaii 96701, USA	D4	LARA, Box 484, Luanda, Angola	IC	c/o Noel Leopoldo Cruz HR5NC, Santa Rosa de Copan, Honduras
	Alaska, All Calls: Alaska OSL Bureau, 4304 Garfield St., Anchorage, Alaska 99503, USA	EI	LARCV, Box 145, Mindelo, Cape Verde	IS	RAST OSL Bureau, Box 2008, c/o G.P.O., Bangkok, Thailand
	SWL: Leroy Waite, 39 Hannum St., Ballston Spa, New York 12020, USA	EL	Irish Radio Transmitters Society (IARU member), Box 462, Dublin 9, Ireland	IX	ARI, via Scarlatti 31, 20124 Milan, Italy
KA	FEARL M, c/o Sam Fleming, GARH- ID-GS-M, APO San Francisco 96343, USA	ET	or Amateur Radio Society of Ireland, Box 938, Dublin 6, Ireland	JA-JS	Cards for Capri Island via Box 18, 80073 Capri, Italy
KA6, KR6	Radio Society of Okinawa, Box 653, FPO Seattle 98773, USA	F	Liberian Radio Amateur Association, Box 1477, Monrovia, Liberia	JT	Cards for Ischia Island via Box 41, 80077 Ischia, Naples, Italy
KG4	GARC, Box 73, FPO New York 09593, USA	FB8, FC, FM, FP	ET3TRC Telecoms ARC, Box 1047, Addis Ababa, Ethiopia	JW	Com Reg Sardo, Box 21, 09100 Capriani, Sardinia, Italy
KX6	Kwajalein Amateur Radio Club KX6BU, Box 444, APO San Francisco 96555, USA	FK	REF (Reseau des Emetteurs Francais) OSL Service, 2 Square Trudaine, 75009 Paris, France	JX	Aosta Valley ARI Group, Box 190, 11100 Aosta, Italy
	Eniwetok Amateur Radio Club KX6BO, Eniwetok, Marshall Islands 96737, USA	FO	or URC, Box 435-01, 75025 Paris Codex 1, France	JY	JARL, 1-14-2 Sugamo, Toshima, Tokyo 170, Japan
AP	Pakistan Amateur Radio Society, OSL Bureau, Box 65, Lahore, Pakistan	FY	via REF OSL Service, 2 Square Trudaine, 75009 Paris, France	JZ	Radio Club Station JT1KAA, P.O. Box 639, Ulan Bator, Mongolia
A4	Royal Omani Amateur Radio Society, Box 981, Muscat, Oman		ARANC, Box 3956, Noumea, New Caledonia		NRRL, Box 21, Refstad, Oslo 5, Norway
A9	Amateur Radio Association Bahrain, Box 472, Awali, Bahrain		Radio Club Oceaniens, Box 374, Papeete, Tahiti		Via Jan Mayen Is., c/o The Nor- wegian Embassy, Reykjavik, Iceland
BV	China Radio Association, Box 101, Taipei, Taiwan 100, Republic of China		REF OSL Service, 2 Square Trudaine, 75009 Paris, France		Royal Jordanian Radio Amateur Society, Box 2353, Amman, Jordan
CE	Radio Club of Chile, Box 13630, Correo 15, Santiago, Chile or Federacion de Clubes de Radio- aficionados de Chile, Box 72, Valparaiso, Chile		or Radio Club de Guyane, Box 508, 97300 Cayenne, French Guiana		Djibouti OSL Bureau, Box 215, Djibouti, Republic of Djibouti
CM-CO	Federacion de Radioaficionados de Cuba, Box 1, Havana, Cuba				QSL Bureau, Box 421, St. George's, Grenada, Windward Islands
CMB COB	OSL Bureau, Box 5, Santiago, Cuba				Dominica ARC, 5 Solomon Lane, Goodwill, Dominica, Windward Is.
CN	ARRAM, Box 299, Rabat, Morocco or AAEM, Box 6133, Casablanca, Morocco	G	RSGB (Radio Society of Great Britain) c/o E. G. Allen G3DRN, 30 Bodnant Gardens, London SW20 0UD, Great Britain	LA-LJ	Norwegian Radio Relay Liga, Box 21, Refstad, Oslo 5, Norway
		GD	Cards for members only may be sent via ISWL (International Short Wave League) OSL Bureau, 1 Grove Road, Lydney, Glos. GL15 5JE, Great Britain	LU	Radio Club Argentino, CC97, Correo Central, 1000 Buenos Aires, CF, Argentina
		GI	RSGB, c/o W. P. Waid GD3GQX, 1 Mount William, Summer Hill, Douglas, Isle of Man, Great Britain	LX	c/o Robert Schott LX1DC, 35 Rue Batty Weber, Esch/Alzette, Luxembourg
		GJ	RSGB, c/o R. R. Parsons G13HXV, 45 Erinvale Avenue, Finaghy, Belfast BT10 0FP, Northern Ireland	LZ	Central OSL Bureau, Box 830, Sofia, Bulgaria
		GM	RSGB, c/o H. J. Chater, 106 Rouge Bouillon, St. Helier, Jersey, C. I., Great Britain	M1	c/o Antonio Ceccoli M1C, Dogana City 67/71, Republic of San Marino 47031
		GU	RSGB, c/o D. R. Macadie GM6MD, 11 Marchmont Road, Ayr KA7 2SB, Scotland, Great Britain	OA	Radio Club of Peru, Box 538, Lima, Peru
		GW	RSGB, c/o W. E. Butt GU2FZC, Meo Voto, Green Lanes, St. Peter Port, Guernsey, C.I., Great Britain	OD	RAL OSL Bureau, Box 8888, Bierut, Lebanon
		HA, HG	RSGB, c/o J. L. Reid GW3ANU, 28 Waterson Road, Gabaia, Cardiff, Wales, Great Britain	OE	OE VSV OSL Bureau, Box 999, A-1014 Vienna, Austria
		HB, HB0	HSRL, Box 214, 1050 Budapest, Hungary	OH	SRAL OSL Bureau, Box 306, SF-00101 Helsinki, Finland
		HC	Cards for members only may be sent via USKA OSL Bureau, Box 9, CH-4900 Langenthal, Bern, Switzerland	OK-OL	Central Radio Club, Box 69, 11327 Prague 1, Czechoslovakia
		HC1	Guayaquil Radio Club (IARU mem- ber), Box 5757, Guayaquil, Ecuador	ON	UBA, Box 634, B-1000 Brussels 1, Belgium
		HC5	Quito Radio Club, Box 289, Quito, Ecuador	OR	or UBRC, Box 224, B-1000 Brussels 1, Belgium
		HH	Cuenca Radio Club, Box 307, Cuenca, Ecuador	OX	EDR OSL Central, c/o Boerge W. Nielsen OZ7BW, Solbjergdewej 76, DK-8355 Ny Solbjerg, Denmark
			Radio Club of Haiti, Box 501, Port Au Prince, Haiti	OX4	Via MARS Director XP1AB, APO New York 09121, USA
				OX5	Via MARS Director XP1AA, APO New York 09023, USA
				OY	Foroyksir Radioamatörar, Box 184, DK-3800 Torshavn, Faeroe Islands
				OZ	EDR OSL Central, c/o Boerge W. Nielsen OZ7BW, Solbjergdewej 76, DK-8355 Ny Solbjerg, Denmark
				PA-PI	Dutch OSL Bureau, Box 400, Rotterdam 3005, Netherlands
				PJ	Verona OSL Bureau, Box 393, Willem- stad, Curacao, Netherlands Antilles
					Cards for Aruba only via Aruba Amateur Radio Club OSL Bureau, Box 273, San Nicolas, Aruba, Netherlands Antilles

WORLD WIDE QSL BUREAUS

27

PP-PY	LABRE/DF, Box 07-0004, 70000 Brasilia, DF, Brasil	VP8	Cards for Falkland Islands & South Georgia should be sent directly to the addresses listed.	ZF	Cards addressed to Cayman Islands only c/o Alan N. Kimble ZF1AK, Box 1029, Grand Cayman, Cayman Islands
PZ	VRAS QSL Manager, Box 566, Paramaribo, Surinam		Only cards for Falkland Island Stations not listed may be sent c/o Donald Betts VP8ON, Keppel Island, Falkland Islands.	ZK1	QSL Bureau, Radio Station Rarotonga, Rarotonga, Cook Islands, New Zealand
P2	QSL Bureau, Box 204, Port Moresby, Papua New Guinea		Cards for Antarctic Stations (BAT) may be sent c/o G.P.O. Stanley, Falkland Islands.	ZL	NZART, Box 40 212, Upper Hutt, New Zealand
SJ-SM	SSA, Ostmarksg 43, S-12342 Farsta, Sweden	VP9	Radio Society of Bermuda, Box 275, Hamilton 5, Bermuda	ZP	Radio Club Paraguayo, Casilla de Correo 512, Asuncion, Paraguay
SP	PZK QSL Bureau, Skrytka Pocztowa 320, 00950 Warsaw, Poland	VQ9	VQ9 QSL Bureau, c/o MARS Station, NCS Diego Garcia, FPO San Fran- cisco 96685, USA	ZR,ZS	Cards for members only via SARR, Box 3037, Cape Town, CP, South Africa
SU	c/o Ibrahim Ibr Mohamed SU1IM, 7 Roda Str., Cairo, Egypt	VS6	Cards for members only via HARTS, Box 541, Hong Kong	3A	c/o Pierre Anderhailt 3A2CN, 27 Boulevard de Belgique, Monte Carlo, Monaco
SV	or Box 840, Cairo, Egypt	VU	Amateur Radio Society of India, Box 534, New Delhi 1, India		or c/o Directeur Generale des Telecoms, 16 Boulevard de Suisse, Monte Carlo, Monaco
S7	Mediterranean SV QSL Bureau, Box 564, Athens, Greece	VY1	or Calcutta ARL, 17 Woodlands, 8/7 Alipore Road, Calcutta 700027, India	3B6 3B9	c/o Paul Cabochie 3BRAD, P. O. Box 467, Port Louis, Mauritius
	c/o William H. Whitworth S79WHW, Box 491, Victoria Mahe, Seychelles		Yukon Amateur Radio Association, Box 4597, Whitehorse, Yukon	3D2	QSL Bureau, Box 184, Suva, Fiji Islands
TA-TC	Turk Radio Amatörleri Cemiyeti, Box 699, Karakoy, Istanbul, Turkey	XE	IARU-LMRE, Box 907, Mexico 1, DF, Mexico	3D6	Radio Society of Swaziland, Box 21, Ezulwini, Swaziland
TF	Islenskir Radio Amatörar, Box 1058, Reykjavik, Iceland		or ARARM QSL Bureau, Box 53, Mexico 1, DF, Mexico	4S	Radio Society of Sri Lanka, QSL Manager, Box 907, Colombo, Sri Lanka
TG	CRAG, Box 115, Guatemala City, Guatemala		or Radio Club Arteca, Box 174, Mexico 1, DF, Mexico	4X,4Z	c/o Shalom Baculu 4Z4BS, IARC QSL Bureau Manager, Box 10191, Tel-Aviv 61200, Israel
TI	Radio Club of Costa Rica, Box 2412, San Jose, Costa Rica	XZ	BARTS, c/o Zaw Yee XZ2SY, 9 Fifth Mile, Kaba Aye Pagoda Road, Yankin, Post Office, Rangoon, Burma	5A	QSL Bureau, Box 372, Tripoli, Libya
TN	QSL Bureau, Box 2239, Brazzaville, Republic of the Congo	YA	Cards for QSO's before August 19, 1973 may be sent c/o Wolfgang Renner DK5AR, Johann Uttinger- strasse 14, D-4520 Melle 1, West Germany	5B	Cyprus Amateur Radio Society, Box 1267, Limassol, Cyprus
TU	Radio Club ARAI, 01 BP 1752 Abidjan 01, Ivory Coast	YB1-YD1	QSL Bureau, Box 314, Bandung, Indonesia	5N	Nigerian Amateur Radio Society, Box 2873, Lagos, Nigeria
U,R	Central Radio Club, Box 88, Moscow, U.S.S.R.	YB2-YD2	Central Java, Northern Area QSL Bureau, Box 88, Semarang, Indonesia	5T	Mauritania QSL Bureau, Box 202, Nouakchott, Mauritania
VE,VO,VY	CRRL Central QSL Bureau of Canada, Box 663, Halifax, Nova Scotia, Canada B3J 2T3	YB3-YD3	QSL Bureau, Box 59, Surabaya, Indonesia	5V	c/o Albert Van Halteren 5V7AH, Box 33, Atakpame, Togo
VE1	c/o L. J. Fader VE1FQ, Box 663, Halifax, Nova Scotia, Canada B3J 2T3	YB4-YD4	c/o Johannes Tatalay YB4GA, GG Sumatra B-5, Palembang, Indonesia	5W	Western Samoa Radio Club, QSL Bureau - Secretary, Box 1069, Apia, Western Samoa
VE2	c/o A. G. Daemen VE2IJ, 2960 Douglas Ave., Montreal, Quebec, Canada H3R 2E3	YB6-YD6	QSL Bureau, Box 464, Medan, Indonesia	5Z	RSEA QSL Bureau, Box 45681, Nairobi, Kenya
VE3	The Ontario Trilliums ARC VE3TOT, P. O. Box 157, Downsview, Ontario, Canada, M3M 3A3	YB7-YD7	through YB0-YD0 via ORARI QSL Bureau, Box 2761, Jakarta, Indonesia	60	c/o Box 397, Mogadishu, Somalia
VE4	c/o W. A. Stouden VE4BJ, 576 Oxford Street, Winnipeg, Manitoba, Canada R3M 3J9	YK	QSL Bureau, Box 35, Damascus, Syria	6W	REF QSL Service, 2 Square Trudaine, 75009 Paris, France
VE5	c/o A. Lloyd Jones VE5JJ, 2328 Grant Road, Regina, Saskatchewan, Canada S4S 5E3	YN	c/o Mike Murciano YN1MO/W4, Box 340902, Coral Gables, Florida 33134, USA	6Y	or ARAS, Box 971, Dakar, Senegal
VE6	c/o G. D. Heleton VE6AGV, 4003 First Street NW, Calgary, Alberta, Canada T2K 0X2	Y0	or Alberto Matamoros YN1MAT, Avenida 1474, Managua, Nicaragua		QSL Manager, Jamaica Amateur Radio Association, Jamaica Red Cross Building, 76 Arnold Road, Kingston, Jamaica
VE7	c/o Howard Martin VE7AFY, British Columbia, Canada V0M 1R0	Y5	Central Radio Club, Box 1395, Bucharest 5, Romania	7Q	c/o H. Y. Bvumbwe 7Q7AE, P. O. Box 24, Blantyre, Malawi
VE8	c/o Al Sturko VE8NS, Box 72, Fort Smith, NWT, Canada X0E 0P0	YU	Cards for members only via CRAS, Box 517, San Salvador, F.I. Salvador	7X	ARA QSL Service, Box 2, Algiers, Algeria
VK1	QSL Officer, G.P.O. Box 1173, Canberra, A.C.T. 2601, Australia	YU1	SRJ, Box 48, 11001 Belgrade, Yugoslavia	8P	Radio Society of Barbados, Box 814E, Bridgetown, Barbados
VK2	QSL Bureau, WIA Hunter Branch, P. O. Teralla, N.S.W. 2284, Australia	YU2	SRH, Dalmatinska 12, 41000 Zagreb, Yugoslavia	8R	c/o Ivan Gouyea 8R1AG, 898 Duke Street, Kingston, Georgetown, Guyana
VK3	Inwards QSL Bureau, c/o E. Trebil- cock, 340 Gillies St., Thornbury, Victoria 3204, Australia	YU3	ZRS, Box 180, 61001 Ljubljana, Yugoslavia	9G	Cards for members only via Ghana Amateur Radio Society, Box 3773, Accra, Ghana
VK3	Outwards QSL Bureau, c/o R. R. Prowse, 83 Brewer Road, Bentleigh, Victoria 3204, Australia	YU4	SR BIH, Box 61, 71001 Sarajevo, Yugoslavia	9H	MARL, Box 575, Valletta, Malta
VK4	QSL Officer, G.P.O. Box 628, Brisbane, Queensland 4001, Australia	YU5	SRM, Box 14, 91001 Skopje, Yugoslavia	9H4	c/o Eric Rogers 9H4G, Dar Ghall- Kwiet, Ghajn Melel St., Zebbug, Malta
VK5	QSL Bureau, c/o George Luxon VK5RX, 203 Belaire Road, Torrens Park, S.A. 5062, Australia	YV	IARU Bureau, Radio Club Vene- zolana, Box 2285, Caracas, DF, Venezuela	9I,9J	Radio Society of Zambia, Box 332, Kitwe, Zambia
VK6	QSL Bureau, c/o J. Rumble VK6RU, G.P.O. Box F319, Perth, W.A. 6001, Australia		or ARV QSL Bureau, Box 3636, Caracas, DF, Venezuela	9K	c/o Nasir H. Khan 9K2AN, Box 736, Safat, Kuwait
VK7	QSL Bureau, G.P.O. Box 371D, Hobart, Tasmania 7001, Australia	ZB	Gibraltar ARS, Box 292, Gibraltar	9L	Sierra Leone ARS, Box 10, Freetown, Sierra Leone
VK8	QSL Bureau, c/o H. G. Andersson VK8HA, P. O. Box 1418, Darwin, N.T. 5794, Australia	ZC	Joint Signal Board Hdqtrs, British Forces Cyprus, B.F.P.O. 53, London G.P.O., Great Britain	9M2,9M6,9MB	via MARTS, Box 777, Kuala Lumpur, Malaysia
VK9,VK0	Federal QSL Bureau, 23 Landale St., Box Hill, Victoria 3128, Australia	ZD7	c/o W. R. Stevens ZD7SD, Box 16, Jamestown, St. Helena, South Atlantic Ocean	9O	UZRA, Box 1459, Kinshasa, Zaire
VO1,VO2	CRRL VO QSL Bureau, Box 6, St. John's, Newfoundland, Canada A1C 5H5	ZD8	Ascension AR Relay League ZD8AR, P. O. Box 4308, Patrick AFB, Florida 32925, USA	9U	BARC QSL Bureau ONSTO, Boter- bekeweg 8, B-8200 Brugge, WV, Belgium
VP2A	c/o Gerald R. Price VP2AC, Box 641, St. Johns, Antigua, Leeward Islands	ZE	RSR QSL Manager, Box 2377, Salisbury, Rhodesia	9Y	SARTS, Box 2728, Singapore 1
VP2L	c/o Clement Bobb VP2LCT, Box 489, Castries, St. Lucia, Windward Islands			9X	RAR QSL Bureau, Box 663, Kigali, Rwanda
VP2M	Montserrat Amateur Radio Society, Box 173, Plymouth, Montserrat, Leeward Islands			9Y	Trinidad & Tobago Amateur Radio Society, Box 1167, Port-of-Spain, Trinidad
VP2S	QSL Bureau, P. O. Box 142, St. Vincent, Windward Islands				

QSL INFORMATION FOR UNITED STATES STATIONS

The American Radio Relay League will handle outgoing QSL's for members only. Write to ARRL for details:

ARRL Membership Overseas QSL Service
225 Main Street
Newington, Conn. 06111, USA

All U.S. stations expecting confirmations on DX contacts via bureaus outside the United States should be sure to send them a self-addressed envelope of adequate size as well as International Reply Coupons (IRCs), obtainable at your Post Office, to cover return postage costs. U.S. stamps are not acceptable for mailing outside the United States and possessions, so please do not put them on your envelopes for use by DX bureaus.

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ATLANTA, GA.	264	322	47	24	25	301	343	15	86	269	297	320	7	271	310	251	347	145	306	281	281	347	154	345	331	321	234	48	64	48	278	27	318	296	289	308	48	84	
BIRMINGHAM, ALA.	82	326	50	31	40	304	356	26	84	268	299	328	17	270	312	246	5	125	314	287	281	10	142	355	338	0	219	52	67	53	278	37	333	298	290	309	53	83	
BISMARCK, N. D.	132	137	92	97	115	209	114	105	124	167	205	133	104	198	273	165	119	132	148	150	233	123	135	109	108	131	151	99	111	102	217	106	134	237	249	282	107	119	
BOSTON, MASS.	236	241	291	277	247	278	273	267	226	254	275	275	274	262	293	246	263	220	268	253	273	256	207	278	286	249	237	235	219	233	268	258	262	280	280	295	236	217	
BUFFALO, N. Y.	208	217	291	92	206	273	264	237	192	241	269	268	261	252	290	231	243	191	258	237	267	231	184	274	286	225	219	118	160	134	261	199	248	276	276	293	159	174	
CHARLESTON, W. VA.	208	223	307	61	24	287	309	359	174	251	282	293	345	260	300	238	293	180	279	251	274	270	174	316	311	245	223	66	108	71	269	31	275	286	282	301	80	143	
CHEYENNE, WYO.	108	112	26	76	76	91	81	81	103	140	187	83	79	189	319	143	90	113	101	119	241	95	119	76	62	104	128	81	92	83	219	84	98	268	262	303	87	100	
CHICAGO, ILL.	161	175	302	82	78	125	272	93	144	221	266	268	80	242	293	210	151	155	245	208	262	157	156	350	308	173	190	91	116	97	254	101	212	274	272	295	106	131	
CLEVELAND, OHIO	197	209	297	80	55	179	277	176	240	272	275	310	252	293	228	245	180	261	235	268	226	175	290	296	219	214	95	136	105	262	127	250	278	277	296	124	156		
COLUMBIA, S. C.	268	267	317	41	10	354	299	329	356	270	295	311	350	271	308	256	326	189	300	279	282	320	174	331	323	297	246	39	53	37	279	7	305	295	290	307	33	85	
DALLAS, TEXAS	81	82	349	57	49	61	325	36	50	80	319	15	45	266	325	157	47	97	15	61	280	55	112	32	11	65	115	60	71	61	277	55	40	308	291	315	63	80	
DENVER, COLORADO	103	107	22	73	72	87	6	75	77	99	134	74	74	189	325	138	84	109	91	112	246	90	116	70	55	98	124	78	88	80	224	80	91	283	267	308	83	96	
DES MOINES, IOWA	134	144	318	80	78	105	271	84	87	123	197	262	81	231	297	187	105	135	197	171	257	116	141	69	5	133	165	87	104	91	247	92	137	273	270	296	97	115	
DETROIT, MICH.	188	200	295	86	79	164	273	263	129	168	233	268	268	248	291	222	224	174	254	227	265	208	171	282	292	206	207	100	133	109	258	128	238	275	274	294	124	151	
EL PASO, TEXAS	77	78	14	58	54	64	8	50	56	76	79	8	42	53	345	98	57	86	48	71	285	62	97	46	33	68	92	61	69	62	290	59	57	335	298	327	64	75	
HELENA, MONTANA	112	116	85	84	88	100	133	97	93	108	134	141	105	92	162	136	101	115	115	122	203	105	119	94	91	111	127	89	98	92	180	94	109	179	224	283	95	104	
HOUSTON, TEXAS	64	60	348	50	40	49	329	25	39	67	338	325	6	34	285	327	34	84	3	26	288	40	103	22	5	46	86	52	60	53	289	45	24	314	297	319	5	68	
INDIANAPOLIS, IND.	166	185	308	72	58	110	281	332	62	143	234	276	290	41	250	298	220	157	267	226	267	168	158	338	316	188	199	80	107	85	261	80	251	281	277	298	94	127	
JACKSONVILLE, FLA.	327	309	324	33	9	1	308	339	0	8	286	304	323	355	282	314	273	340	314	300	288	338	163	341	332	326	271	29	34	28	287	8	323	303	295	312	23	39	
KANSAS CITY, MO.	120	129	332	72	67	90	288	60	73	111	196	278	15	66	236	306	184	82	126	157	262	95	134	50	9	113	157	78	93	81	253	79	97	282	275	302	85	105	
LITTLE ROCK, ARK.	97	104	335	59	48	65	307	26	48	92	243	300	352	41	260	315	208	43	114	338	276	55	128	21	356	71	158	62	76	64	271	56	22	297	286	309	67	89	
LOS ANGELES, CALIF.	81	82	41	62	61	70	52	62	65	79	88	57	60	62	100	19	96	67	87	67	81	70	94	59	52	76	92	65	71	66	95	67	69	35	319	348	68	78	
LOUISVILLE, KY.	166	190	313	66	47	87	287	339	43	137	242	282	301	26	256	302	227	348	156	280	239	271	158	342	322	202	205	71	98	75	266	63	278	285	281	301	82	120	
MIAMI, FLORIDA	337	326	329	22	3	355	313	342	356	355	302	310	329	353	291	318	290	342	345	321	315	293	341	342	335	334	298	18	16	15	293	1	330	308	299	315	11	13	
MILWAUKEE, WIS.	162	175	297	87	88	132	267	170	107	147	218	261	253	99	239	290	207	157	156	235	204	259	160	157	298	172	188	98	121	103	251	111	203	271	270	293	113	135	
MINNEAPOLIS, MINN.	145	154	291	91	96	123	248	125	108	135	193	242	184	105	227	283	186	132	144	189	175	248	137	146	114	148	169	99	116	104	237	110	159	259	261	287	111	127	
NASHVILLE, TENN.	140	180	320	59	40	61	295	354	36	114	251	290	318	24	261	307	231	8	142	298	254	275	22	150	353	333	205	63	83	65	271	50	313	291	285	305	68	103	
NEW ORLEANS, LA.	50	37	337	46	32	38	318	9	28	60	299	313	347	22	283	321	270	17	86	339	339	288	22	114	7	351	23	46	56	47	287	35	359	308	296	315	47	64	
NEW YORK, N. Y.	233	240	296	54	303	251	281	280	223	255	278	280	286	262	294	244	269	213	271	253	274	259	202	287	293	251	237	205	229	269	269	266	283	282	297	235	208		
NORFOLK, VA.	249	253	306	35	342	291	290	303	319	236	264	286	295	318	268	301	253	294	217	285	267	279	284	198	308	307	269	244	25	16	274	322	284	289	286	302	343	208	
PHILADELPHIA, PA.	233	240	296	52	317	255	283	285	289	221	255	279	283	294	263	296	246	273	212	273	255	275	263	199	292	296	252	235	49	197	270	279	269	284	282	298	235	203	
PHOENIX, ARIZONA	80	83	29	61	59	69	35	58	62	79	89	40	55	59	108	0	100	64	89	62	80	277	70	97	55	45	74	93	64	72	66	64	66	1	300	334	68	79	
PITTSBURGH, PA.	210	221	300	72	18	213	280	286	308	188	246	276	281	310	257	295	235	264	189	268	244	271	246	181	296	299	234	222	85	140	96	265	261	281	279	297	123	165	
ST. LOUIS, MO.	134	150	320	70	60	90	287	30	63	119	224	280	319	53	248	303	207	68	137	280	204	267	94	143	20	342	130	179	75	95	79	260	74	284	278	301	84	110	
SALT LAKE CITY, UTAH	99	101	50	73	74	86	83	79	78	95	118	98	80	76	152	359	123	84	103	91	104	220	88	109	75	67	95	114	78	86	80	181	80	90	254	315	83	92	
SAN FRANCISCO, CALIF.	86	86	54	66	67	75	70	70	70	83	96	75	70	68	109	39	101	73	90	77	88	136	77	96	67	62	81	97	69	76	71	114	71	77	66	1	73	81	
SEATTLE, WASHINGTON	103	105	87	81	84	94	111	92	89	100	118	116	97	88	136	96	120	95	105	103	109	165	97	109	90	88	102	114	85	92	87	147	89	100	128	181	90	97	
WASHINGTON, D. C.	233	240	302	52	342	263	285	293	307	215	256	281	287	308	263	298	245	280	205	277	257	275	268	192	300	302	254	235	53	163	53	270	305	273	285	283	300	189	
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Door or rig	<input type="checkbox"/> Walnut Grained <input type="checkbox"/> Jet Black	All letters same size Up to 18 characters per line on 4" Up to 20 characters per line on 7" & 8"	<input type="checkbox"/> 1"x4" <input type="checkbox"/> 1"x7" <input type="checkbox"/> 2"x8"	
Exec. Desk Set	<input type="checkbox"/> Walnut Grained <input type="checkbox"/> Jet Black	All letters same size Up to 20 characters per line		<input type="checkbox"/> Gold <input type="checkbox"/> Silver
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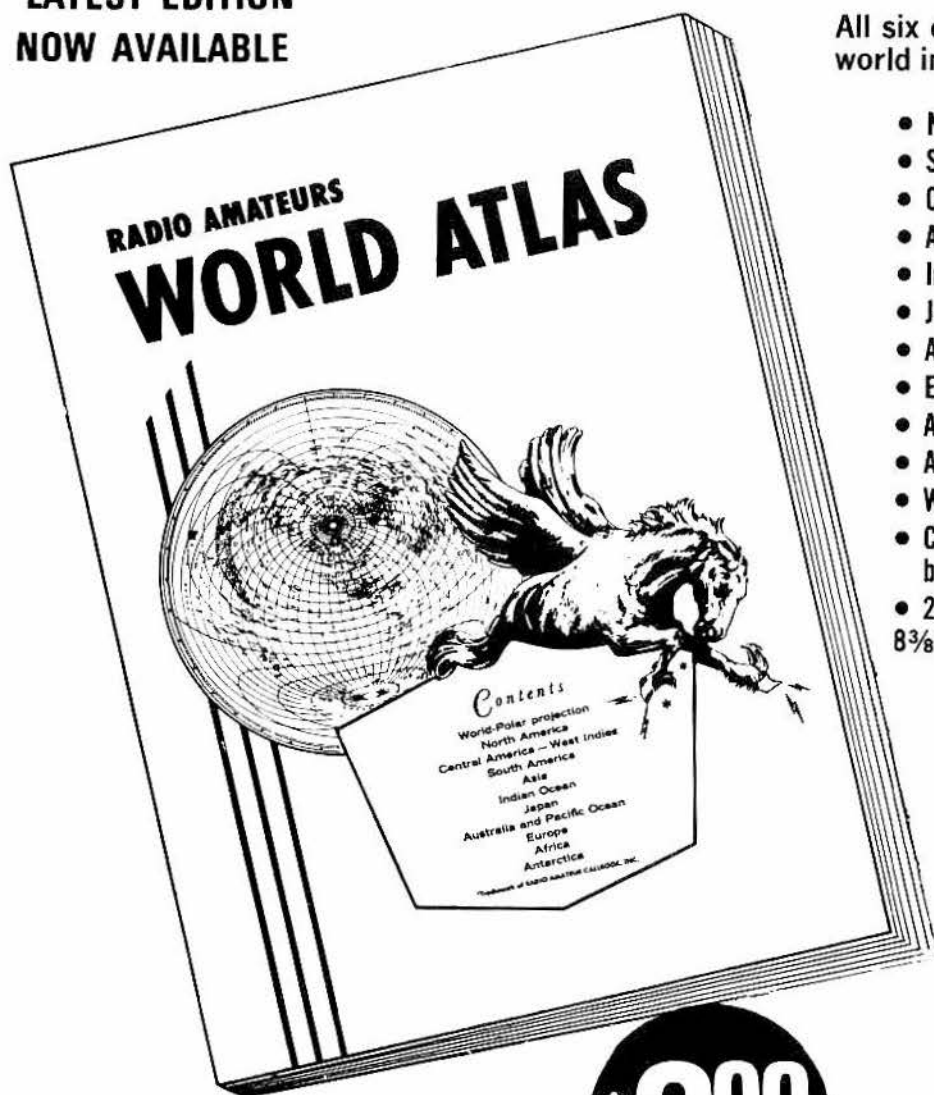
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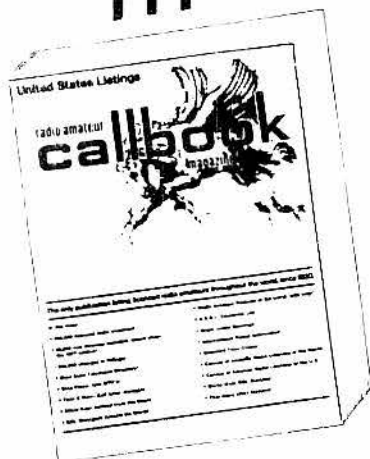
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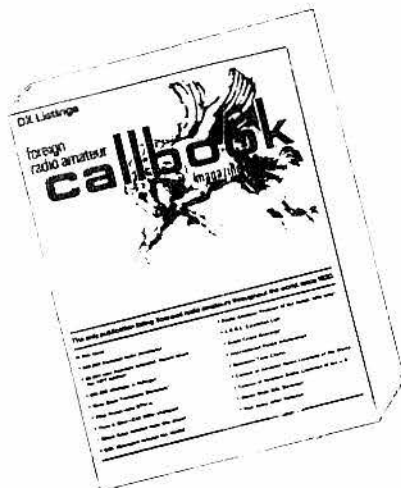
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